run 5

THE JOURNAL OF STRATEGIC STUDIES GROUP

Issue 8

AUST $4.00/US $4.00

Featured in this Issue

- ★ **Battle of Corinth** – a Civil War scenario for the *Decisive Battles Game System*
- ★ **Hurtgen Forest** – a scenario for the *Battlefront Game System*
- ★ **Salerno** – a scenario for *Battlefront Game System*
- ★ Player Notes for *Reach for the Stars* (3rd Edition)
- ★ Player Notes for *Russia*
- ★ British and Russian Aircraft of WWII for *Europe Ablaze*

ONLY SSG DELIVERS REAL COMMAND ON THE BATTLEFIELD

Battlefront is the first release of SSG's revolutionary game system. No other game makes giving orders so easy! No other game requires them to be so right! **Battlefront** recreates the feel of land warfare as never before, presenting you with all the decisions of a Corps Commander. Naturally... you also get all the problems.

You must deal with the supply, organisation and fatigue of your men and issue your combat orders. Then watch as your subordinates try valiantly to carry them out. Be warned! The computer opponent is not easily fooled and is smart enough to take advantage of your mistakes.

Battlefront comes with four complete scenarios, Saipan, Bastogne, Crete and Stalingrad. Solitaire playing times vary from one to three hours, depending on scenario length. Taking on a human opponent takes a little longer.

The **Battlefront Game System** gives you real command. The design kit included with every game allows you to vary the parameters of scenarios or create entirely original games. Only SSG delivers this unique form of military power.

Read what the critics have said about **Battlefront**....

"***Battlefront*** is easily the finest wargame currently available for any computer system." **Ahoy!**

"***Battlefront*** is one of the most exciting new wargames. It captures the feel for corps-level command as few other wargames have." **Compute!**

"***Battlefront*** is an excellent game; fast, interesting, well-designed and well-presented." **Breakout**.

"More like a movie... a simulation of World War II that the avid historian and the casual gamester can enjoy and understand." **II Computing**.

BATTLEFRONT
Corps Level Command in World War II
Roger Keating & Ian Trout
A Game for the Commodore 64
64 K DISK
BATTLES IN NORMANDY
JUNE-JULY 1944
ROGER KEATING • IAN TROUT • MALCOLM POWER
ANDREW TAUBMAN • EDITED BY GREGOR WHILEY
Featuring the battles of
OMAHA • UTAH • SWORD • CHERBOURG • CARENTAN
VILLERS BOCAGE • GOODWOOD • EPSOM

BATTLEFRONT
FOR APPLE II FAMILY AND C64/128
$40.00

BATTLES IN NORMANDY
FOR APPLE II FAMILY AND C64/128
$40.00

Battles in Normandy is the much demanded sequel to **Battlefront**. Using the **Battlefront Game System** it covers the two months of fighting that followed the Allied invasion of Normandy in 1944. No seaborne invasion of this scale had ever been attempted before. When the Allies landed, nobody was quite sure what would happen. The last thing they expected was to be pinned down for two months in Normandy.

The **Battlefront Game System** gives you a unique opportunity to examine a part of military history. **Battles in Normandy** contains a large colour map of the entire Normandy Peninsular and eight scenarios. Those scenarios recreate the battles of **Omaha, Utah, Sword, Cherbourg, Carentan, Villers Bocage, Goodwood and Epsom.** Each scenario is accompanied by an historical article. There are suggested variations to each scenario, examining various military alternatives.

Of course, our comprehensive design kit is again included, providing you with the tools to create scenarios and variants of your choice.

If you liked **Battlefront**... you'll be delighted with **Battles in Normandy!**

In North America – ELECTRONIC ARTS

1820 Gateway Drive, San Mateo, CA. 94404. (415) 571-7171.
How to Order: Visit your retailer or call 800-245-4525 (in CA call 800-562-1112) for Visa or Mastercard orders.

In Australia – STRATEGIC STUDIES GROUP

P.O. Box 261, Drummoyne. 2047. (02) 819-7199.
How to Order: Send cheque or money order or dial direct for Bankcard, Visa or Mastercard orders.

SSG publish a quarterly journal, **Run 5**, which contains extra scenarios and features for all our historical simulations.
For more details, please write for a catalog to our Australian or American Office.
SSG Inc., 1747 Orleans Ct., Walnut Creek, CA. 94598. (415) 932-3019

Run 5

Issue 8
October, 1987

Editor's Chance 2
Notes, Contest Winners, Work in Progress. . .

Letters to the Editor 3
Readers have their say. . .

Playing Russia 4
Gregor Whiley discusses strategy for Germany and Russia

Corinth 5
Disaster in the West for the Confederacy

Question Time 12
Reader's queries answered

Salerno South 13
Deen Wood's winning scenario

Scenario Updates for Battlefront 24
Four older scenarios brought up to scratch

Winning at Reach for the Stars 26
Whiley and Stevens discuss options

Hurtgen Forest 28
Ed Robisheaux' winning scenario

British and Russian Aircraft of WWII 40
Part IV of a technical feature for Europe Ablaze

Editor
Ian Trout
Contributing Editors
Roger Keating
Gregor Whiley
Malcolm Power
Mark Holman
Andrew Taubman
Danny Stevens
U.S. Operations
John Gleason
Illustrator
Nick Stathopoulos
Mentor
Ken Trout
Colour Artwork
John Mockridge
Graphus Pty Limited
Printing
Maxwell Printing Co. Pty Ltd

Run 5 is published 4 times per year by Strategic Studies Group Pty Limited. All rights Reserved. Copyright 1987

P.O. Box 261, Drummoyne. 2047
AUSTRALIA
(02) 819-7199

1747 Orleans Court,
Walnut Creek. CA. 94598
U.S.A.
(415) 932-3019

ISSN 0816-7125

Run 5 is available wherever you buy our games or you can order it direct from SSG. Subscription rates are shown on this page

EDITOR'S CHANCE

Our second birthday has rolled around already! The last months of 1987 have been our busiest ever. In October we published ***Halls of Montezuma*** for Apple II and Commodore 64 and the Macintosh version of ***Reach for the Stars***. On December 2nd, that's yesterday, we published ***Decisive Battles of the American Civil War (Vol 1)*** for Apple II and Commodore 64.

Yes, I know that Issue 8 was due to be published in October! Well, it's a bit late. There just weren't enough brains to go around to get everything done. We'll catch up a little with Issue 9 which is scheduled for the first week in February.

We think we chose the right priority. ***Decisive Battles*** is a very powerful game system. You can all get your loved ones to buy you a copy for Christmas.

Speaking of loved ones, on December 2nd, our second son was born, giving us a total of four knee-biters to date. We named him Thomas Napoleon Trout and thought it quite appropriate that he chose the anniversary of his namesake's great victory at Austerlitz to start out in the game of life.

As you've probably deduced, this editorial is somewhat rushed. We haven't really decided the composition of the next issue; there will be a ***Carriers at War*** scenario for sure and possibly a recreation of the famous British disaster at Islandwana using the ***Decisive Battles*** game system. Roger has another article brewing on something.

THE WINNERS ARE...

The readers responded magnificently to the Battlefront competition, with over 70 scenarios submitted. Judging all of these was a daunting enterprise. A few people managed to pick subjects that were covered in ***Battles in Normandy*** or ***Halls of Montezuma***. These contestants showed excellent taste but could not qualify as winners. However, even leaving these aside, there were a large number of excellent entries.

In the end, the judges could not separate Deen Wood's *Salerno South* and Ed Robisheau's *Hurtgen Forest*. These gents have earned $750 apiece.

Both scenarios were developed on an original ***Battlefront*** disk. Malcolm Power has taken the liberty of adjusting these scenarios (i.e. adding the necessary extra data and juggling the VPs just a touch) to bring them up to ***Halls of Montezuma*** standard. If you don't have ***HOM***, just ignore the extra data.

Furthermore, those of you who have ***HOM*** may care to do some work on the graphics using Warpaint™, our very first trade-marked innovation.

Amongst those authors deserving an honourable mention are Daniel H. Antolec of Monona, who submitted superbly presented

Continued on p.48

SUBSCRIPTION RATES
(4 issues/1 year)

IN AUSTRALIA
Magazine/disk sub. = $AUD 65.00
Magazine only sub. = $AUD 15.00

IN NORTH AMERICA
Magazine/disk sub. = $USD 65.00
Magazine only sub. = $USD 15.00

ELSEWHERE
(Surface Post)
Magazine/disk sub. = $AUD 75.00
Magazine only sub. = $AUD 25.00
(Airmail Post)
Magazine/disk sub. = $AUD 85.00
Magazine only sub. = $AUD 35.00

To subscribe, consult the schedule of fees above and make sure you include your computer type (Apple or C-64) with your cheque or money order if you want a disk subscription. A disk subscription entitles you to however many disks are necessary to complement all the scenarios in the magazine.

For those of you who don't want to spend this extra money. . . don't worry. All the data necessary to build the magazine scenarios will be provided for you.

North American subscribers should send a cheque or money order (in US funds) to our US office. Everyone else should send their cheque, money-order, Visa or Mastercard to our Australian office.

Individual scenario disks can be purchased for $15.00 each. Back issues are available for $5.00 each plus $1.00 (surface) or $4.00 (air) for postage and handling.

LETTERS TO THE EDITOR

We are running out of letters, so this is your chance to run off at the mouth. Why let us have all the fun? If you've got something to say, drop us a line.

Dear Mr Keating and Mr Trout,

A copy of this letter is being sent to Simulations Canada. I chose to write an identical letter to both of your companies for many reasons. One is that I am a wargamer and your companies produce the best computer wargames on the market today. Another reason is that I have written to your companies in the past and received similar responses as to why you only support the Apple and the C-64. Finally, these letters are identical for I wish to ask both companies the same question; is the Atari ST in your future plans?

Let me first state that I deeply appreciated the replies I received from you in the past. I seriously did not understand how pervasive pirating was on the Atari 8-bits. I have witnessed this machine bring about its own demise due to pirating, rather than buying products. I still wish that you had tried to enter this market, but with a smaller company, releasing programs for many machines is not feasible. Being older and wiser, I am not sitting by my mailbox waiting for you to flood the market news of releases for the ST. However, I feel that the 68000-based machines could move computer wargaming to a higher level.

Your companies both rely on systems that take the player away from the front lines. This method dictates the need for a high level of artificial intelligence, not only for the computer controlled opponent, but for your troops as well. A 48/64K machine has worked in the past. This was fine. But think of the possibilities if you used a machine with 512K! They are endless.

I am sure that you have explored the possibilities of doing a game on the 16-bit computers. I just hope you do go this route and that you will release games for the ST.

I have a friend with an Apple and have enjoyed most of the games that you have released. However, I have not sent $1 to either of your companies. Believe me, I am not asking you to take my money, I just want to let you know that I will happily respond with my wallet, if, and when, you release games for the ST.

Cordially

Rob Winslow

Syracuse, NY USA

Dear Sirs,

I recently purchased your ***Battlefront*** simulation for my C-64 computer. Although I had read reviews of your releases in several computer magazines (especially **Computer Gaming World**) this is the first one I have purchased from your company. I can now say in all probability it will not be the last. As an avid board wargamer for the past 15 years, I can say that the design concept is excellent and I hope to be able to translate several of my board simulations to the ***Battlefront*** computer format.

I'd like to offer my suggestions for some future directions you might consider. I've owned my venerable C-64 for almost 5 years now and still find it an excellent machine. However, I recently upgraded to a Commodore Amiga and find it is both an excellent productivity and 'game' machine. I certainly appreciate the faster, smoother operation the Amiga affords and would certainly prefer to run Amiga versions of your products if such versions were available. I sincerely hope to see both Amiga conversions of your present offerings as well as Amiga specific designs in the near future.

As another suggestion; why not do a Civil war version of the ***Battlefront*** concept. As I'm sure you are aware, Civil War simulations are currently big sellers in the software market. To date no one has offered a really first rate 'design package' around that period. A package that does for the Civil War what ***Battlefront*** does for World War II would be a hit. I at least know of one person who would snatch it up immediately--me! Alternatively, there may be ways to adapt the design aspects of ***Battlefront*** to accurately simulate other periods. If so, I would certainly appreciate gaining insights into that process. Maybe future issues of ***Run 5*** could address this subject.

Again thanks for a great product. Keep up the good work!

Michael R. Brasher

Albuquerque. NM. USA

Gentlemen,

In your opening comment in issue #6 of ***Run 5*** letters to the editor, you hinted that we (the gamers who enjoy your games) can have a measured impact on your decisions about game topics for future designs. You may have opened with that one, as I have found wargamers to be about as fanatical and opinionated a lot as you'll find. At any rate, put me down as a raving maniac for a game similar to ***Carriers at War*** covering contemporary naval conflict, and also a squad level WWII game on the order of ***Battlefront***.

Since I'm writing I'll risk doing irreversible damage to your egos and tell you that I believe the things you're doing set the standard for effective use of computers for wargaming. Do keep up the good work... and thanks for bringing solid, 'tight' wargaming to my Apple.

Bob Toole

Louisville, KY. USA

Sirs,

Your recent release, Russia, is your best game to date. The historical detail makes it more than a game. It provides the chance to study the campaign from the standpoint of what actually did or could have happened. In part, this is possible with the built-in ability to manipulate the game through the design routines. I hope you never eliminate the ability to 'create' in your simulations.

If votes are counted, I would enjoy seeing more historical campaign level simulations, similar to Russia. The WWII Italian Campaign would make an interesting game, as would the entire European-North African conflict between the Allies and Axis powers. Most of

Continued on p.14

PLAYING RUSSIA

Sound Strategies for Both Sides

by Gregor Whiley

The voting on Russia is divided. A lot of letters say that the Germans can't win, an equal number are sure that the Soviet cause is hopeless. Whatever side you are on, this article should help.

A few points apply no matter which side you are playing. You must keep your men in good shape. Supply and Admin are critical. Both sides need to keep a careful eye on them, especially when on the offensive. You can't get supply without rail lines so you will find yourself anxiously examining their progress. The progress of rail lines is (and was) one of life's ineffable mysteries. They proceed reasonably fast in good weather, hardly at all in bad. If you can't stand the strain of not knowing exactly when they will reach you then you should take up something more certain and less demanding, like selling life insurance.

All remarks here apply to the standard campaign game on the disk.

AS THE GERMANS it is entirely possible to win, if you survive the first winter in good shape. To do this requires careful play right from the start.

On the first few turns, when the invasion surprise flag is on, you are virtually guarantied to win any battle. Carefully examine all combats on the first turn. Those containing multiple German (not Rumanian) units, especially Panzer Korps will probably KIA their opponents many times over. There is no point in shooting Russians who are already dead, so some attacks may be reduced to Probes, rather than Assaults. This will consume less supplies and allow you sustain the initial offensive for longer. Even without surprise, attacks by multiple Panzer Korps may still be excessive. Careful consideration of attacks will allow you to reach the requisite first year objectives.

Army Group North must take Leningrad before the bad weather. Playing the Leningrad scenario will give you some practice for this. The trick is to have at least one Panzer Korps in good shape after taking Pskov, with which to assault Leningrad itself. If you don't get Leningrad before the winter, its time to insert apology notices in Pravda, give back the bit of Poland that wasn't really yours and try invading England instead.

Leningrad is a source of supply, for which you will be very grateful during the winter. You probably won't take Tikvin in the first year but you should be able to defend the river between Tikvin and Leningrad and a line running through Novgorod and Demyansk.

Army Group South has an easier job. Your only real problem is where to stop. Kiev is easily taken after which you can move on Cherkassy and Dnepropetrovsk. You could go further and possibly reach Stalino, but you rail lines won't reach there in time. You should aim to defend the Dnieper and Zaporozhe, although Zaporozhe is ultimately expendable. It is also quite feasible, (if not quite sporting), to leave the the Axis Allies, especially the Italians, in the front line to absorb some of the fury of the first Russian counter-attacks.

Army Group Centre has a lot to do. As well as the fighting at the frontiers you can expect to have to fight for Minsk, then Smolensk and Vyasma as these are on the direct line to Moscow. However you have six Armees, two of which are Panzer Armees. There isn't enough room for them all to fight at once so you can reserve your troops as required. You might reach Vyasma but your rail lines might not. Smolensk will serve almost as well.

Moscow is right out. The German attacking Moscow in the bad weather in '41 is a German defending Berlin in '43. To the south of Moscow, Orel is reachable but not supportable. Bryansk and Roslavl should be taken and held. Don't forget to take Gomel on the way through as this will probably be your only rail link.

If you achieve all of your first year objectives you still have to hold them through the bad weather. To do this, all your Korps must be in supply. During the mud weather this means being no more than one hex away from a supplied city. Examining the map will show you where you should be. Preparation for the bad weather should start while it is still clear. Decide where you want to be and clear the front of any enemy directly adjacent to where you want to make your stand. This will enable you dig in without sufffering fatigue. The idea is to start the bad weather in supply, on a defensible line and at level three fortification. Not all troops will be needed in the front so you can still maintain a reserve.

The manoeuvres above will put you in the best possible position for surviving, however you must realize the limitations of your position. The first winter flag causes automatic attrition, which you will see in your reports as the losses mount. You will have to rotate Korps and may have to give up some ground as well. Your ASPs will also suffer attrition so park as many as you can on the Western Front. This will earn extra VPs and save them from useless loss. Your ability to attack is very limited and your main role is just to hang on.

Continued on p.12

CORINTH

Disaster in the West
3rd - 4th October, 1862

A SCENARIO FOR
Decisive Battles of
THE AMERICAN CIVIL WAR

By Ian Trout

To September 1862, Confederate General Earl van Dorn had lost two battles, those at Pea Ridge and Baton Rouge, and had failed to reinforce Johnson for the crucial advance on Pittsburg Landing. Desperate to recoup his fortunes, he drove aggressively on Corinth in early October, bringing General William S. Rosecrans to battle outside that town on October 3rd.

Two days later he had made it three defeats in a row!

THE SITUATION

The first year of the war had generally gone quite well for the Confederacy in the East. In the West, however, it was another story. A combination of lack-lustre generalship, inadequate administration, superior enemy numbers and just plain bad luck had driven the Confederacy from one disaster to another.

After the debacle at Shiloh in April, General P.G.T. Beauregard, who had replaced the killed General Johnson, retreated south to Corinth and partially fortified the town in expectation of a Union pursuit. The breastworks in our scenario are those built by Beauregard which accounts for the fact that many of them are facing in the wrong direction.

Fearful of superior Union numbers, Beauregard abandoned Corinth on May 30th. Union General Henry Halleck occupied Corinth on the following day.

As a result of devious political machinations, General Braxton Bragg had replaced Beauregard as overall commander in the West by the beginning of July. Immediately, he made the strategically sound decision to go onto the offensive and manoeuvre into Kentucky.

Major-General Sterling Price was left behind with some 16,000 men to keep General Ulysses S. Grant in Western Tennessee and to prevent him from linking up with General Buell to oppose Bragg.

Price realized that his 16,000 men could do little against Grant's 30,000 and so he ordered General Earl van Dorn, commanding the garrison at Vicksburg, to join him.

It appears the vainglorious van Dorn, still smarting over his defeat at Pea Ridge, was more concerned with restoring his reputation than obeying his orders. He launched a poorly prepared and ill-timed assault on the Union garrison at Baton Rouge and was bloodily repulsed.

Unrepentant, van Dorn used his considerable political influence to persuade Jefferson Davis to place all troops in the Mississippi, including those of Price, under his command.

Meanwhile, Price had moved his army north to Iuka, a small town 15 miles south-east of Corinth. He faced a serious dilemma. Bragg's orders now instructed him to move into Kentucky. On the other hand, General Rosecrans, at Corinth, had only two divisions available for the defense of that town. Still undecided, he learned on September 18th of the change in command hierarchy. Reluctantly he chose to withdraw to link up with van Dorn.

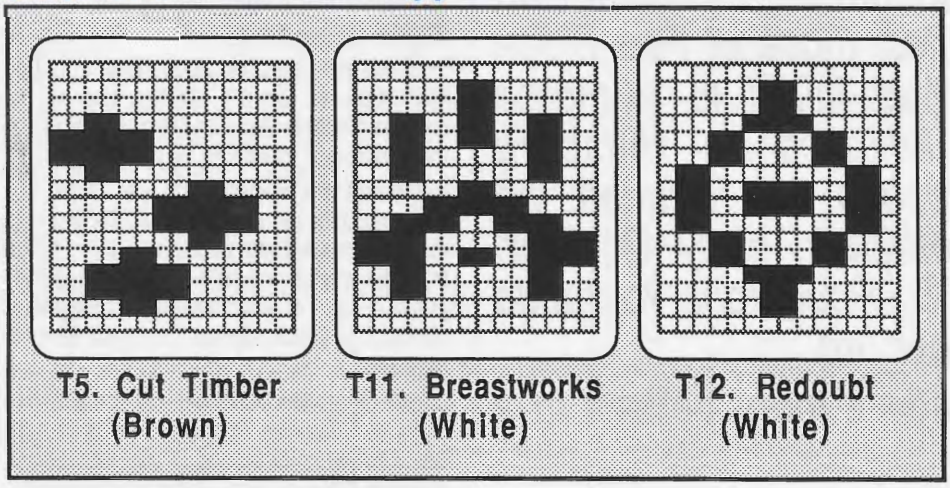
Rosecrans' force had not been idle. On Grant's instruction, two divisions moved on Iuka and neatly trapped Price's force between them as it was preparing to depart. Poor co-ordination, however, prevented a complete victory and most of Price's men slipped away south. It was another blow to southern morale.

CORINTH - Terrain Effects Chart

TERRAIN TYPE #	T0-T31	T2	T3	T4	T5	T6	T7	T8
TERRAIN NAME	[11]	Farmland	Ridgeline	Woods	Cut Timber	Swamp	Large Town	Large Town
SIGHTING VALUE	0-7	1	2	5	2	4	5	5
MOVEMENT COST	0-7	2	2	3	3	5	3	3
COVER VALUE	0-7	1	2	4	2	4	5	5
FORT. (NORTH)	0-7	0	0	0	0	0	0	0
FORT. (SOUTH)	0-7	0	0	0	0	0	0	0

TERRAIN TYPE #	T0-T31	T9	T10	T11	T12	T13		
TERRAIN NAME	[11]	Large Town	Large Town	Breastworks	Redoubt	RR Station		
SIGHTING VALUE	0-7	5	5	2	2	1		
MOVEMENT COST	0-7	3	3	3	2	1		
COVER VALUE	0-7	5	5	3	4	1		
FORT. (NORTH)	0-7	0	0	2	6	0		
FORT. (SOUTH)	0-7	0	0	0	0	0		

CORINTH - Terrain Type Icons



T5. Cut Timber (Brown)

T11. Breastworks (White)

T12. Redoubt (White)

Van Dorn now assembled a force of 23,000 men and 60 guns, including Price's Army, to attack Corinth. Rosecrans had four divisions, some 23,000 men also and 80 guns to defend the town.

In the last days of September, van Dorn moved north, taking a circuitous route to confuse his opponent. Rosecrans, however, accurately assessed the situation and stayed put. He deployed his four divisions to face west through north-east. Nine artillery redoubts ringed the town.

On October 3rd, about 10am in the morning, van Dorn's Army of Western Tennessee, deployed on either side of the Chewalla Rd, came into contact with Rosecrans' men. The battle had begun.

CREATING THE SCENARIO

This is the first time we have published a ***Decisive Battles of the American Civil War*** scenario in the magazine. There are enough differences between this game system and any of our other game systems to make it a good idea to take you through the creation step by step. It will also help those who are having a go for the first time.

The number in brackets after each section corresponds to the numbering system in the Design Routines of the Player's Manual.

PREPARING THE DISK [3]. Boot up the Master Disk and select <CREATE> from Menu H. Select <SCENARIO> from Menu B. <LOAD> the First Bull Run scenario. You have been processed through to Menu J. Select the <DISK> line from that menu.

If you have one disk drive, remove the Master Disk and replace it with a blank disk. If you have two disk drives, remove the Scenario Disk from the second drive and replace it with a blank disk.

Select <FORMAT> from the on-screen menu. Once this is done, select <SAVE> from the menu and store the First Bull Run scenario in any unused save-game location. We have prepared the template on which we will build the Corinth scenario.

The Warplan menus are displayed on the back of the game menus card. Refer to this when necessary.

TITLE [5c]. There are three lines of text for the title.

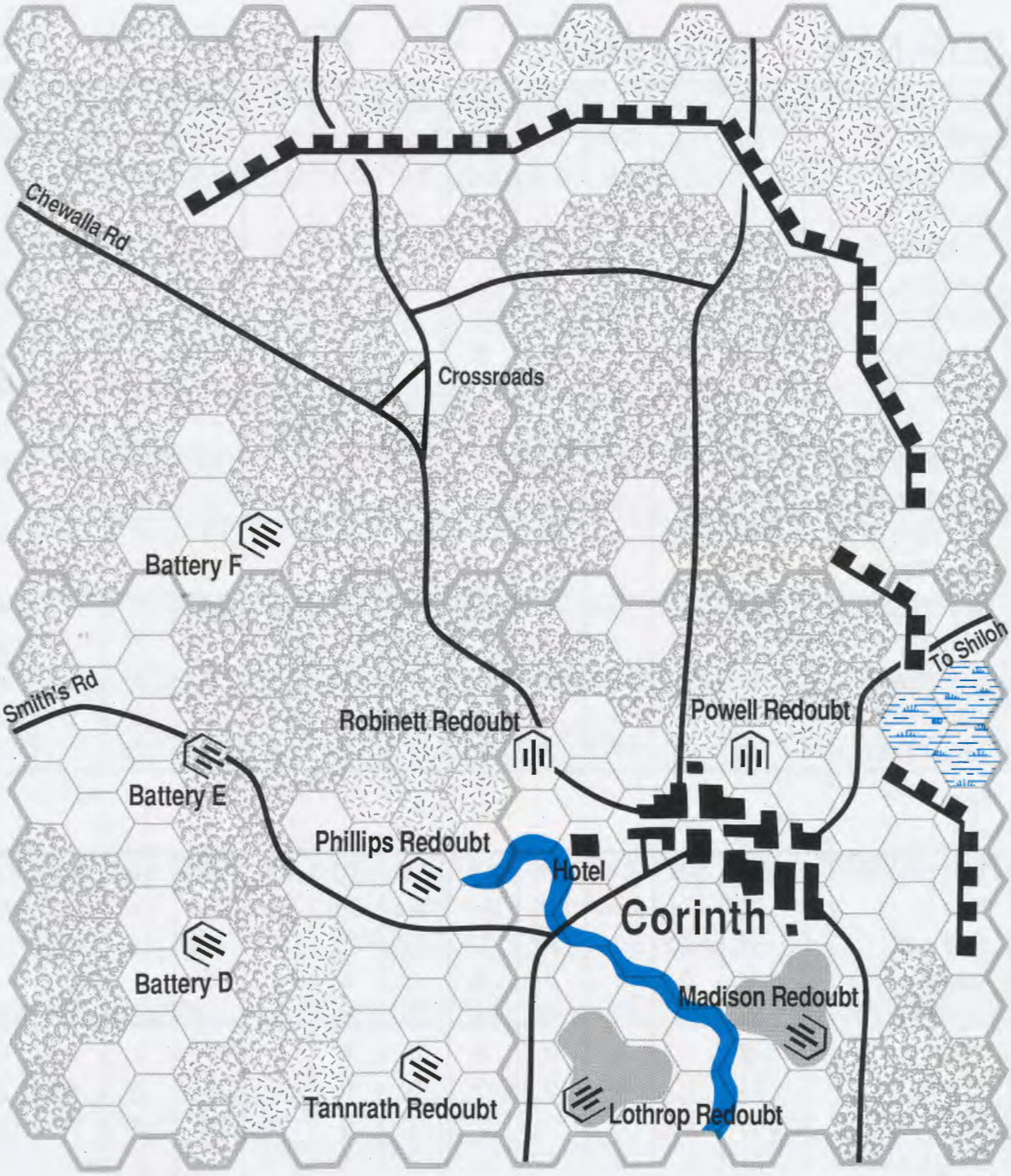
Corinth
Disaster in the West
October 3 - 4, 1862

Do not change the command names. Go back to Menu J and re-save the game in the same location.

MAP SIZE [5a(i)]. The top left sector is 0. The bottom right sector is 4.

DEFINE TERRAIN [5a(ii)]. The accompanying Terrain Effects Chart lists the details of the active terrain types for this scenario. Terrain types T2-T4 and T7-T10 are

CORINTH



Terrain Key

FARMLAND	RIDGELINE	WOODS	RIVER
CUT TIMBER	SWAMP	TOWN	BRIDGE
BREAST-WORKS	REBOUBT	ROAD	

CORINTH - Brigades

UNIT NUMBER	1-127	1	2	3	4	5	6	7	8	9	10	11	12	
UNIT ID	[3]	Gat	Col	Gre	Mar	Moo	Cab	Phi	Rus	Vil	Bow	Arm	Jac	
MAP LOC	(x,y)	6,1	5,0	8,0	7,0	3,0	2,1	1,1	0,4	0,5	0,6	0,3	0,3	
CORPS	0-15	0	0	0	0	0	0	0	0	0	0	0	0	
DIVISION	0-39	1	1	1	1	2	2	2	3	3	3	0	0	
ARRIVAL	0-95	0	0	0	0	0	0	0	0	0	0	2	3	
TYPE	0-3	0	0	0	0	0	0	0	0	0	0	2	2	
OBJECTIVE	0-23	0	0	0	0	0	0	0	0	0	0	7	7	
SMALL ARMS	0-31	2	8	8	1	1	2	8	12	1	12	8	9	
ARTILLERY	0-31	15	13	15	13	15	15	15	17	14	13	0	0	
TROOP STREN.	0-31	21	16	22	11	19	16	14	22	24	21	14	11	
MOVEMENT	0-15	6	6	6	6	6	6	6	6	6	6	9	9	
BATTERY STR.	0-15	2	5	4	2	4	2	2	3	2	3	0	0	
SHATTERED	0-1	0	0	0	0	0	0	0	0	0	0	0	0	
LEADERSHIP	0-7	5	4	5	4	3	5	4	5	3	6	4	4	
COHESION	0-7	7	7	7	7	7	7	7	7	7	7	7	7	
EXPERIENCE	0-7	6	5	5	4	3	3	6	5	3	5	4	4	
REGIMENTS	0-7	5	6	5	4	5	6	4	6	6	5	3	2	
LIKELIHOOD	0-7	7	7	7	7	7	7	7	7	7	7	7	7	

UNIT NUMBER	1-127	35	36	37	38	39	40	41	42	43	44	45	46	47
UNIT ID	[3]	Ful	Mow	Buf	Sul	Hac	Ogl	Bal	McA	Oli	Cro	Miz	SS	Res
MAP LOC	(x,y)	4,12	3,12	12,1	13,1	8,2	9,1	10,1	2,3	3,2	4,7	11,12	13,12	14,14
CORPS	0-15	0	0	0	0	0	0	0	0	0	0	0	0	0
DIVISION	0-39	18	18	19	19	20	20	20	21	21	21	0	0	0
ARRIVAL	0-95	0	0	0	0	0	0	0	0	0	0	0	0	0
TYPE	0-3	0	0	0	0	0	0	0	0	0	0	2	0	3
OBJECTIVE	0-23	0	0	0	0	0	0	0	0	0	0	0	0	0
SMALL ARMS	0-31	1	8	1	1	1	1	12	8	1	1	3	11	0
ARTILLERY	0-31	19	13	15	14	15	15	15	19	19	19	0	0	19
TROOP STREN.	0-31	15	17	20	16	14	12	10	14	17	22	21	8	3
MOVEMENT	0-15	6	6	6	6	6	6	6	6	6	6	9	8	5
BATTERY STR.	0-15	4	3	5	3	1	1	1	1	1	1	0	0	8
SHATTERED	0-1	0	0	0	0	0	0	0	0	0	0	0	0	0
LEADERSHIP	0-7	3	4	6	4	3	3	2	5	3	3	4	6	5
COHESION	0-7	7	7	7	7	7	7	7	7	7	7	7	7	7
EXPERIENCE	0-7	5	4	4	3	4	5	4	3	3	2	3	6	6
REGIMENTS	0-7	4	5	5	6	4	4	3	3	4	4	6	2	1
LIKELIHOOD	0-7	7	7	7	7	7	7	7	7	7	7	7	7	4

CORINTH - Brigades (Cont.)

UNIT NUMBER	1-127	48	49	50	51	52	53	54	55	56				
UNIT ID	[3]	R1	R2	R3	R4	R5	R6	R7	R8	R9				
MAP LOC	(x,y)	4,8	3,11	3,14	9,11	7,13	7,16	10,17	13,11	14,16				
CORPS	0-15	0	0	0	0	0	0	0	0	0				
DIVISION	0-39	0	0	0	0	0	0	0	0	0				
ARRIVAL	0-95	0	0	0	0	0	0	0	0	0				
TYPE	0-3	3	3	3	3	3	3	3	3	3				
OBJECTIVE	0-23	0	0	0	0	0	0	0	0	0				
SMALL ARMS	0-31	0	0	0	0	0	0	0	0	0				
ARTILLERY	0-31	20	15	13	21	24	20	14	13	14				
TROOP STREN.	0-31	1	1	1	1	1	1	1	1	1				
MOVEMENT	0-15	0	0	0	0	0	0	0	0	0				
BATTERY STR.	0-15	2	3	3	2	1	2	2	2	1				
SHATTERED	0-1	0	0	0	0	0	0	0	0	0				
LEADERSHIP	0-7	5	5	5	5	5	5	5	5	5				
COHESION	0-7	7	7	7	7	7	7	7	7	7				
EXPERIENCE	0-7	6	6	6	6	6	6	6	6	6				
REGIMENTS	0-7	1	1	1	1	1	1	1	1	1				
LIKELIHOOD	0-7	7	7	7	7	7	7	7	7	7				

CORINTH - Divisions

DIV NUMBER	1-39	1	2	3	18	19	20	21
DIVISION ID	[9]	Hebert	Maury	Lovell	Stanley	Hamilton	Davies	McKean
CORPS	0-15	0	0	0	0	0	0	0
TYPE	0-1	0	0	0	0	0	0	0
ORDERS	0-2	0	0	2	1	1	1	1
OBJECTIVE #1	0-23	10	3	0	5	15	10	3
OBJECTIVE #1	0-23	11	7	0	0	0	0	0
LEADERSHIP	0-7	5	3	2	5	3	4	4
STAFF	0-7	4	4	2	5	5	5	5

unchanged except for the values of the variables assigned to them. T6 (Swamp) and T13 (RR Station) can be found by using Warpaint to cycle through the icons. Use the <STORE> and <RECALL> functions to put them in their right places. T6 should be blue and T13 should be white.

T5, T11 and T12 have to be built up from scratch as shown in the accompanying diagrams.

CREATE MAP [5a(iii)]. Select the <CLEAR> line from Menu J. Clear ***only*** the map. Do not clear the data. Use the accompanying map to build up the screen map. Do not forget to assign control to each hex. Use any combination of terrain types T7-T10 for the city of Corinth. Where roads run through breastworks, redoubts or city hexes, make those roads into hidden roads; it looks better if you do.

Save the game again. How often you save really depends on how lucky you feel. After several major disasters, I choose to save after each section is completed.

LIMITS [5b(i)]. Before you can set the force limits, you must go through all the Union units in the data base and clear them. There are only 4 divisions and 12 brigades so it won't take long. The force limits are as follows; corps (7), divisions (18), brigades (35). There are not that many Reb units of course; what we done is make room for additional Reb units if we want to enlarge the scenario.

Do not change the weapons limits. In fact, only one change need be made to weapon types.

WEAPONS [5b(ii)]. Add the 8 inch Howitzer to the artillery list. Locate artillery type 24 and edit it as follows; (8in How'zer) (5) (3) (7) (7).

CORINTH - Objectives

OBJECTIVE NUM.	1-23	1	2	3	4	5	6	7
OBJECTIVE NAME	[11]	Chewalla Rd	Smith's Rd	Works (L)	Battery F	Battery E	Battery D	Crossroads
MAP LOCATION	(x,y)	0,3	0,11	3,2	4,8	3,11	3,14	7,5
START TURN (N)	1-95	1	1	1	1	1	1	1
STOP TURN (N)	1-95	19	19	19	19	19	19	19
VPs/TURN (N)	0-255	10	1	5	10	1	1	5
VPs AT END (N)	0-255	50	5	25	25	5	5	25
MAN. VALUE (N)	0-15	0	0	0	0	0	0	0
START TURN (S)	1-95	1	1	1	1	1	1	1
STOP TURN (S)	1-95	19	19	19	19	19	19	19
VPs/TURN (S)	0-255	1	5	1	10	15	20	5
VPs AT END (S)	0-255	5	25	5	50	25	50	25
MAN. VALUE (S)	0-15	0	0	0	0	0	0	0

OBJECTIVE NUM.	1-23	8	9	10	11	12	13	14
OBJECTIVE NAME	[11]	Phillips	Tannrath	Works (C)	Robinett	Hotel	Lothrop	Corinth
MAP LOCATION	(x,y)	7,13	7,16	9,1	9,11	10,13	10,17	12,13
START TURN (N)	1-95	1	1	1	1	1	1	1
STOP TURN (N)	1-95	19	19	19	19	19	19	19
VPs/TURN (N)	0-255	5	1	5	5	1	1	1
VPs AT END (N)	0-255	25	5	25	25	5	5	5
MAN. VALUE (N)	0-15	0	0	0	0	0	0	0
START TURN (S)	1-95	1	1	1	1	1	1	1
STOP TURN (S)	1-95	19	19	19	19	19	19	19
VPs/TURN (S)	0-255	20	20	10	20	20	20	50
VPs AT END (S)	0-255	50	50	25	50	50	50	100
MAN. VALUE (S)	0-15	0	0	0	0	0	0	0

OBJECTIVE NUM.	1-23	15	16	17	18			
OBJECTIVE NAME	[11]	Works (R)	Powell	Madison	To Shiloh			
MAP LOCATION	(x,y)	13,1	13,11	14,16	17,9			
START TURN (N)	1-95	1	1	1	1			
STOP TURN (N)	1-95	19	19	19	19			
VPs/TURN (N)	0-255	1	1	1	1			
VPs AT END (N)	0-255	5	5	5	5			
MAN. VALUE (N)	0-15	0	0	0	0			
START TURN (S)	1-95	1	1	1	1			
STOP TURN (S)	1-95	19	19	19	19			
VPs/TURN (S)	0-255	2	20	20	1			
VPs AT END (S)	0-255	10	50	50	5			
MAN. VALUE (S)	0-15	0	0	0	0			

FORCES [5b(iii)]. Edit the North Army HQ as follows; (Rosecrans) (-) (Army of the) (Mississippi) (12) (13) (0) (7) (1) (11) (14) (4) (1) (3) (3). Edit the South Army HQ as follows; (Van Dorn) (Price) (Army of) (W Tennessee) (5) (0) (1) (6) (14) (1) (0) (6) (4) (2) (4).

There are no corps for either side.

There are 4 North and 3 South divisions. There are 22 North brigades (including 9 stationary batteries) and 12 South brigades. See the accompanying tables for details.

CORINTH
Union Forces

ARMY OF THE MISSISSIPPI
Maj-Gen. William S. Rosecrans

Stanley's Division
- Fuller's Brigade (1500 inf, 8 guns)
- Mower's Brigade (1700 inf, 6 guns)

Hamilton's Division
- Buford's Brigade (2000 inf, 10 guns)
- Sullivan's Brigade (1600 inf, 6 guns)

Davies' Division
- Hackleman's Brigade (1400 inf, 2 guns)
- Oglesby's Brigade (1200 inf, 2 guns)
- Baldwin's Brigade (1000 inf, 2 guns)

McKean's Division
- McArthur's Brigade (1400 inf, 2 guns)
- Oliver's Brigade (1700 inf, 2 guns)
- Crocker's Brigade (2200 inf, 2 guns)

Mizner's Brigade (2100 cav, no guns)

Yates' Sharpshooters (800 inf, no guns)

Reserve Artillery (300 crew, 16 guns)

Redoubt Artillery (9 batteries, 36 guns)

OBJECTIVES [5b(iv)]. Enter the data from the accompanying table.

Scenario Setup [5d(i)]. Enter the following data; Day (3), Month (10), Year (62), Century (18), North Maximum Hex Movement is (4,0,7,3,4), South Maximum Hex Movement is (4,0,7,0,6), neither side is encamped and VP awards are 25 per leader and 5 per 100 men for both sides.

SCENARIO DETAILS [5d(ii)]. For Day 1 the weather is clear, the South is Offensive (1), 10am to 5pm are daylight (3), move (1) turns and 6pm is a dusk (2), move (1) turn.

For Day 2 the weather is clear, both sides are Offensive (1), 6am is a dawn (1), move (1) turn, 7am to 2pm are daylight (3), move (1) turns and 3pm is a daylight (3), end (2) turn.

CORINTH
Confederate Forces

ARMY OF WEST TENNESSEE
Maj-Gen. Earl van Dorn

Hebert's Division
- Gates' Brigade (2100 inf, 4 guns)
- Colbert's Brigade (1600 inf, 10 guns)
- Green's Brigade (2200 inf, 8 guns)
- Martin's Brigade (1100 inf, 4 guns)

Maury's Division
- Moore's Brigade (1900 inf, 8 guns)
- Cabell's Brigade (1600 inf, 4 guns)
- Phifer's Brigade (1400 inf, 4 guns)

Lovell's Division
- Rust's Brigade (2200 inf, 6 guns)
- Villepigue's Brigade (2400 inf, 4 guns)
- Bowen's Brigade (2100 inf, 6 guns)

Armstrong's Brigade (1400 cav, no guns)

Jackson's Brigade (1100 cav, no guns)

A NOTE ON HEX CONTROL. The following 18 hexes begin the game under Confederate control. All other hexes are controlled by the Union; (0,0) (0,1) (0,2) (0,3) (0,4) (0,5) (0,6) (1,0) (1,1) (2,0) (2,1) (3,0) (4,0) (5,0) (6,0) (6,1) (7,0) (8,0).

Save again and the scenario is ready to play.

PLAYING THE SCENARIO

The Confederate commander must drive hard for Corinth from the very start of the game. Note, however, that you do not arrive on the battlefield until the second turn. Your first job is to get in contact with Lovell and change his reserve order to an offensive command; from Battery F to Phillip's redoubt is not a bad line.

Don't worry about Hamilton's division on the extreme right of the Union line. It is unlikely to bother you on the first day, especially if computer controlled.

If you can get as far as the inner redoubts, or better still sneak into Corinth for a couple of turns, you will build up enough VPs to be able to go on the defensive on the second day.

The Union commander begins the game in a bad location. You must make a decision whether to move towards Stanley's division to the west or Hamilton's division to the north. Both of them must be committed to stop the Confederate drive before it can get far enough to cause you trouble. Do your defending in range of the defensive benefit provided by the stationary redoubt batteries.

If the Confederates have never made it as far as the Robinett redoubt, then you should not have to attack on the second day. If you do, then good luck; you'll need it.

VARIATIONS

Lovell's Reluctance. The Confederate drive was marred by General Lovell's reluctance to commit his troops to what he thought was a foolish plan. In the basic scenario, van Dorn can easily activate Lovell because of his direct subordination. If, however, we insert a corps HQ for General Price [viz. (Price) (0,3) (0) (0) (0) (0) (0) (6) (1) (2) (1)

Continued on p.25

Continued from p.4

If you survive this first winter in reasonable shape you are well on the way to winning. You will have to wait out the spring thaws, which bring another round of mud, but you will see your losses shrinking as replacements catch up with the winter losses. The summer of 42 should be a happy hunting time and you should take Moscow, Voronezh and Rostov. You may go on to take all of Russia or you may eventually be ground down and stopped. Whatever happens you should have enough points to win the game.

AS THE RUSSIANS your job is never easy. You will naturally lose most of your frontier formations on the first turn. Initially all you can hope to achieve is a little delay and as many losses as possible. Brest-Litovsk is a fortified city and may hold out for a turn or two. Your ASPs and GSPs are going to suffer attrition whether you use them or not, so pick the best defensive position you can find and pile them all on. It may make a difference but its no great loss if it doesn't.

Theatre A should aim to preserve Leningrad. The key to this is a defense line set up between Pskov and Novgorod. The terrain around Leningrad is very bad, which will help. If you can't hold Leningrad you must hold Tikvin otherwise it will be very difficult to counter-attack in the North. In the snow weather you should aim to cause as much grief to the Germans as possible.

Theatre B has the job of defending Moscow. If the Germans really push things they can sometimes mount attacks on Moscow itself. They should lose if they try this but if the mud is late in arriving this could be embarrassing.

The Germans are guarantied to get to Smolensk or even Vyasma but you should aim to give them a fight for one or the other. This will slow them up and wear down their Supply and Admin. Depending on how many of the comrades are left, you may be able to defend Moscow and Tula in the closing stages of the good weather. The Siberian troops which turn arrive are very useful but they do not receive replacements and will eventually wither away. Use them for strong counter-attacks in the winter.

In Theatre C you may well run out of troops entirely at some stage. this is not such a problem as there is no one city as critical as Moscow or Leningrad. The Germans can just reach Rostov if they want to, but they will be very easy to eject in the winter. It may be possible to punish over adventurous play on the part of Axis-Allies but otherwise you have to wait for the winter.

For all theatres, the game will be won or lost for the Russians in the first winter. You must severely damage the Germans such that they cannot crush you in 1942. You must wait for the snow. Attacking in the mud is a total waste of time. If you wait for a few weeks of snow weather then the attrition will have started to take its toll on the Germans and they will be weaker.

The sad fact that the Russian player has to face is that his troops cannot sustain offensives for very long. Individual Armies soon run out of puff and the situation at Front and Theatre level is not much better. You must be very careful not to run down resources too far as they take a while to recover. The Germans have no real offensive capability so you have the initiative throughout the snow weather. You must kill German Korps and using 15 GSPs in a single combat is a very good way to do it. You will only get one or two good attacks from a formation so you must make the most of them.

In 1942 the Germans will mount offensives as soon as the good weather starts. From Leningrad to Moscow the terrain is tough enough to support reasonably static defense, especially if you have killed a lot of Germans in the winter. In the south it is a different matter. Your troops are no match for tanks in the open terrain. You must give ground and counter attack only when you think that the Germans are extended or out of supply.

Again Axis-Allies are fair game. Its a long way between supply sources in the south, especially once you get past Rostov. Try to use your Tank Armies to pick on German Infantry Korps. If you can cause casualties here and there without being annihilated yourself you will be in reasonable shape.

It is important for the Russian player to realize that the job is not over if he is still alive at the end of 1942. Saving Moscow is not enough. To win the game you need Berlin.

By the end of 1942, it will be obvious whether or not the Russians are to be wiped out. The structure for the Victory Points mean that this is not the end of the game. The Germans can still win handsomely without ever taking Moscow or even seeing Stalingrad. If both players do the right thing the game can still be finely balanced in terms of points at the end of 5 years. ◆

MORE QUESTIONS (More Answers...)

Q. What happened to the three different types of river hexes referred in to in *Run 5 #6* for *Battles In Normandy*.

A. We could have programmed those changes but we couldn't figure out how display different hex-sides on a C-64 due to the color mixing that occurs on hex borders on that machine. If we solve the display problem we will implement the changes.

Q. Can you actually capture Leningrad in the Leningrad Scenario of *Russia*? I had two Panzer Korps attack and destroy the Russian defender but they didn't advance and another Russian appeared.

A. Yes. You can take Leningrad. You must be on Main Effort to do so, as only troops on Main Effort will advance into enemy territory. Even if you destroy the defender your troops may be too worn out to advance. If Supply, Admin and Fatigue are poor then troops may be unable to advance. This is often a problem in the Leningrad scenario where time is short for the Germans.

Lastly, troops with high Admin values tend to move first and re-inforcements appear at the start of the movement turn. It is possible that new Russians will get to Leningrad for either of these reasons before your troops can move.

Q. What has happened in *Russia* to the four Special Military Districts (Baltic, Western, Kiev, Odessa) that the Russians started the war with? Similarly the Germans seem to be missing various Armees, not to mention a variable number of Army groups.

A. We had to do a fair degree of rationalization at the Armee level to keep formations roughly equal. Armees with just one Korps are not much use in game terms so their components have been distributed. The Russian districts were consolidated to match the three Army Groups of the Germans. If you count the actual divisions in the initial OB you should be pretty happy with the result.

Continued on p. 39

SALERNO SOUTH

The American Beachead 9th - 16th September, 1943

A SCENARIO FOR THE BATTLEFRONT GAME SYSTEM

By Deen Wood

In the fall of 1943 the military balance in Europe had begun to shift to a degree that was visible to even the civilian populations. For the first time the Axis had been forcibly evicted by western troops from areas to which they attached great importance.

These American and Commonwealth troops had begun to expect victories. The Allied air forces initiated the air assault that would eventually reduce many German cities to rubble. After the dark days of 1940 and 1941 and the terrible trials of 1942, the world looked rosy indeed to the Allies.

THE SITUATION

However, as the Allies were about to learn, the Germans were far from beaten and were more than willing to demonstrate the finer points of war to their less practiced opponents. Being suspicious of their Italian ally's intentions they moved additional troops into the Italian peninsula. Although they were concerned about other landing sites, they knew that in Italy there were a limited number of possible sites, due to the range of Sicilian based Spitfires. These sites they prepared to defend.

The site at Salerno had a number of apparent advantages, the most compelling of which was the greater availability of air cover from Sicily. The alternative site at Volturno, north of Naples, was considered to be out of effective range. However, all exits from the Salerno site passed through mountainous and difficult terrain. An attacker might well get ashore but be unable to breakout.

There were three armies at Salerno: British, American and German. The two engaged in this scenario are the American and the German. The Americans would commit the 36th and 45th Infantry Divisions and the 82nd Airborne Division. The 36th was a Texas National Guard unit, well trained but untested. The 45th had fought in Sicily under Patton. The decision was made to send the 36th in first with the 45th in reserve. The 82nd Airborne was to have been dropped near Naples but the events surrounding the Italian surrender caused this important part of the plan to be canceled. A drop near Rome was later canceled and the division was instead dropped into the beachead.

The Germans had a number of divisions engaged. these units often fought on both British and American fronts and were switched from one to the other. They were formed into battlegroups with elements of different regiments and even battalions mixed together. For example the 2nd Battalion 2nd Panzer Regiment had two companies with Battle Group von Doering near Albanella and the other company with Battle Group von Holtey near Persano. These dispositions have been taken into account as far as possible.

The main units opposing the Americans were the 16 Panzer Division, 29 Panzer Grenadier Division and the 26 Panzer Division. The 16 Panzer was defending the beaches when the Americans landed. Upon announcement of the Italian surrender the day before they had disarmed and replaced the 222 Italian Coastal Division in the positions overlooking the Gulf of Salerno. One of its two panzer battalions was refitting in Germany with Mk V tanks. The remainder of the troops were divided into four battle groups, two of which fought the Americans.

The 29 Panzer Grenadier Division began arriving on the American front on September 10. It had started as the 29 Infantry and was destroyed at Stalingrad. The survivors were

Equipment

0	
1	Rifle
2	Engineer
3	105mm SP
4	105mmHow
5	155mmHow
6	M10s
7	M4s
8	Paras
9	Glider
10	75mmPAK
11	57mm AT
12	Mk IVs
13	Mk Vs
14	StG IIIs
15	Pz Gren
16	APC 234s
17	105/155
18	Eng/Art

combined with the 345 infantry to form the 29 PzG Division. Elements of its 71 PzG Regiment fought against the British and Americans.

The 26 Panzer Division concentrated on the American front when it began to arrive on the 12th. It had been formed from the 23 Infantry Division in 1942. At the time of the invasion one of its tank battalions was in Germany refitting with Mk VI tanks and the other was near Rome and did not reach the Salerno area until the 16th. Other elements of the division were in contact with the Canadians on the Adriatic coast.

The Allies thought that they had a secret weapon for the invasion: Italy's surrender. However, the announcement had the unexpected effect of taking the cutting edge off some of the troops. When the 36th Div hit the beach they ran into withering fire instead of the afternoon stroll some had expected. The 16th Pz troops in the area launched repeated counter-attacks during the day. Only intense naval gunfire prevented disaster in some areas of the beachead. When the day ended the Americans had penetrated only 4 miles instead of the 10 to 14 that had been planned.

After the situation had been evaluated, increased emphasis was placed on the Persano - Ponte Sele corridor. This area was supposed to have been seized by British troops but they were preoccupied elsewhere. The 157th and 179th regimental Combat Teams were committed to the area on the morning of the 10th.

They did link up with the British but were ejected from the Ponte Sele area. The failure of the Allied link up convinced the Germans that an evacuation was in progress. From the 12th to the 14th a series of violent attacks were launched which came near to destroying the Americans. Only heavy naval and artillery fire plus the failure of the Germans to press home some of their assaults prevented catastrophe. The Allies weathered the storm and after the 14th the main danger had passed. Sufficient troops had landed to hold on and the Eighth Army was rapidly approaching from Calabria.

THE SCENARIO

The Americans must press to expand their beachead. With off-board support this can and must be done. Failure to do so will result in disaster. press on to seize the high ground and then use your armour to attack Persano and Ponte Sele.

The Germans are quite weak at first but should hold on until help arrives. Your troops are experienced and well prepared. Attack and destroy the enemy at every opportunity. Though the Allied OBS will often cause grievous casualties, it will usually be better to stay in open terrain so long as you are able to attack. Resting your regiments is a problem. If you can find a way to do it the rewards will be great.

VARIATIONS

Axis Air Power. The Germans made no serious attempt to contest the airspace over the beachead. With numerous bases quite near the battle and the Allies operating mostly from Sicily the Germans could, with a few more planes, have made life very unpleasant for the naval support groups and the Allied troops. Make the following changes: Germany (Day) - Support = 15, Reliability = 2, Rating = 7; American (Day) - Support = 20, Reliability = 2, Rating = 8, (Night) Support = 7, Reliability = 1, Rating = 10. Status = 4 and Reliability = 2.

Italian Reliability. Suppose the Italians had not surrendered. The Americans would also have been met by forces the 222 Coastal Division. Create an Italian regiment and include it with the 16 Pz Div.

US Paratroopers. These specialized troops were wasted as regular infantry. One could assume that they had been landed near to Naples. depleting and delaying German reinforcements and supplies. Or you could drop them into the battle itself. Begin dropping the para regiments near Roccadaspide and Serre on turn 0. ◆

Letters
Continued from p.3

all, though, your upcoming release ***Road to Appomattox*** is anxiously awaited.

Sincerely,

Gary Cheatham

Muskogee, OK. USA

Dear Sirs,

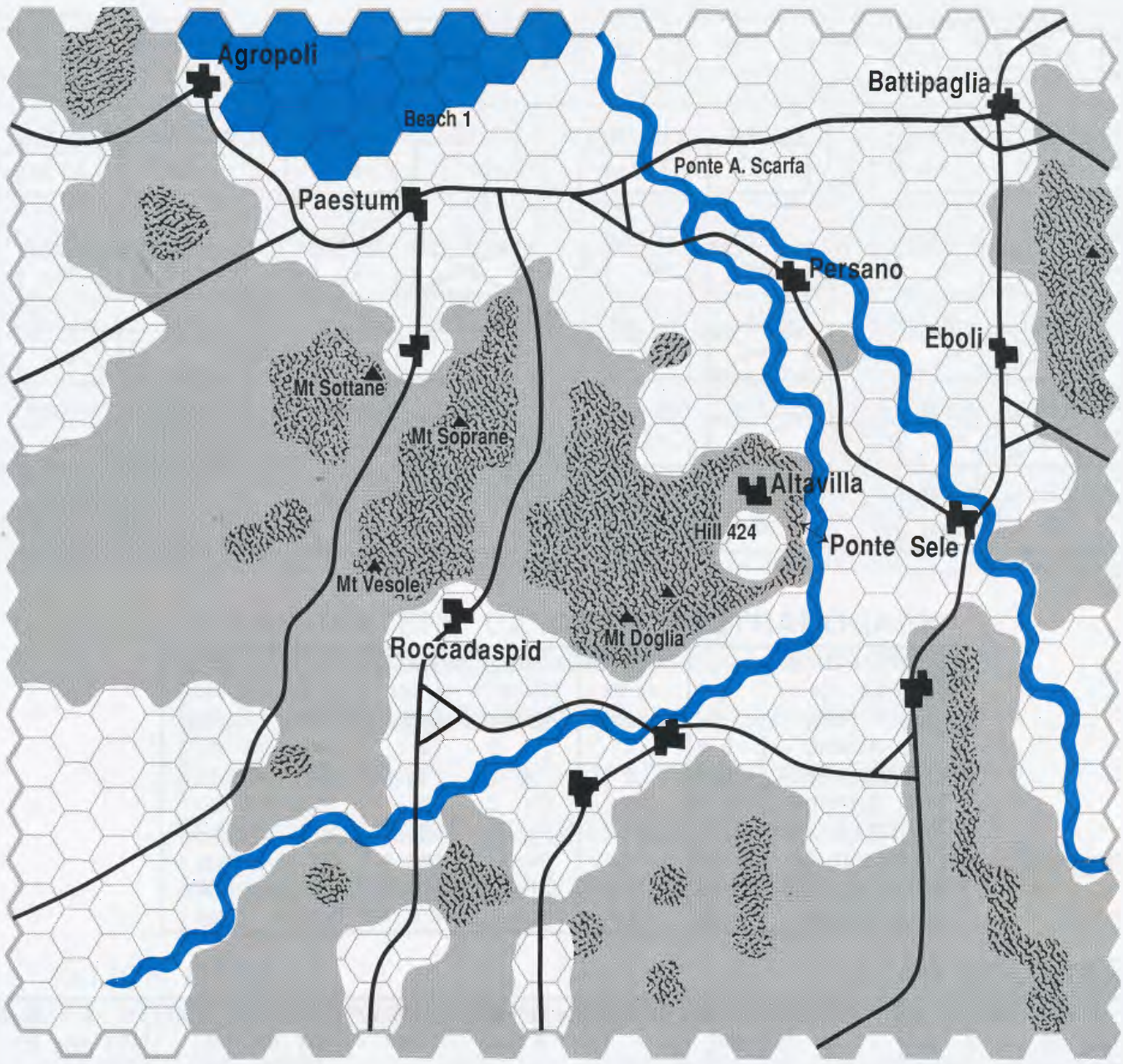
I just thought I would write you my first one of *those* letters. Haven't you had enough by now?

A while back I bought one of your simulations ***Battlefront*** and after playing it and some of the excellent scenarios from your magazine, I decided to invest some of my hard-earned cash in another one of your programs. This time I went for ***Russia*** which I saw highly praised and advertised in your magazine (not biased by any chance are you?). This is the best simulation that I have played yet.

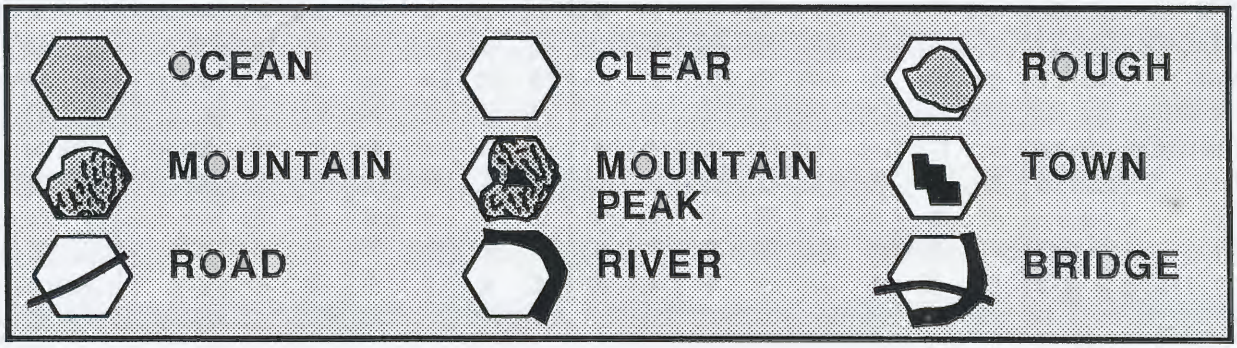
I have played all the scenarios in the two packages including the grand campaign in ***Russia*** with mixed results. To this end, how about some strategy suggestions in ***Run 5***? All the playing I have done so far has been

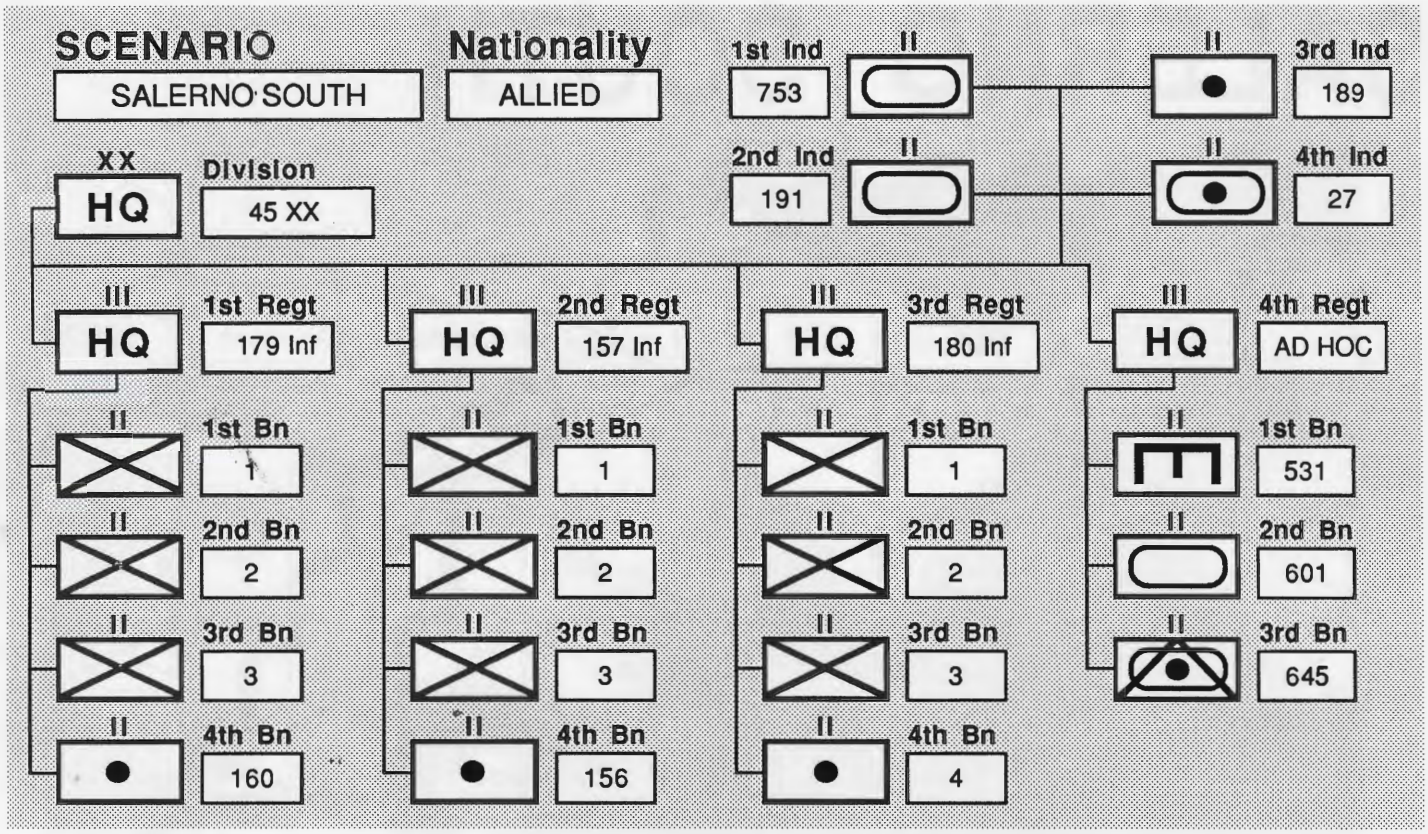
Continued on p.47

SALERNO SOUTH



Terrain Key



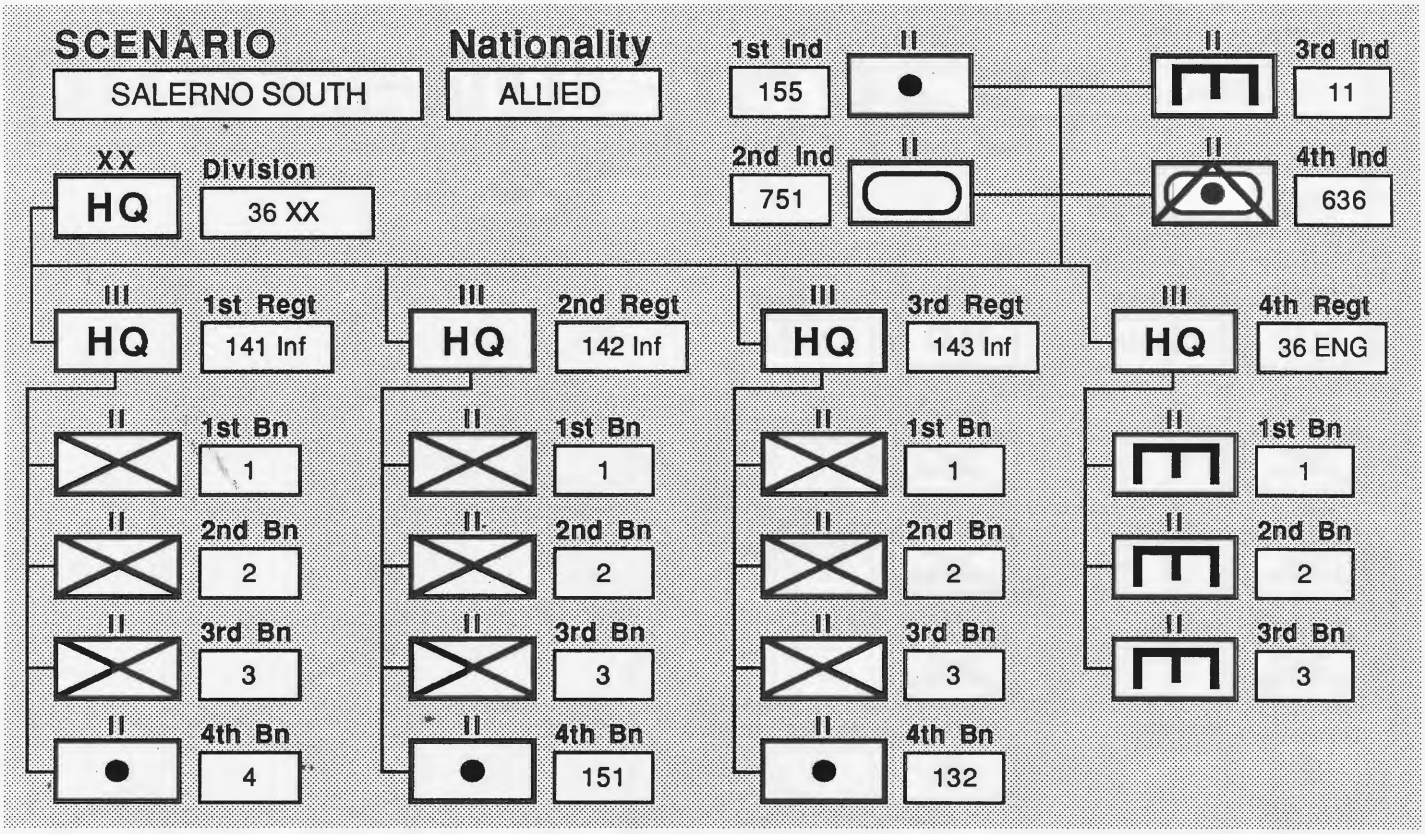


HEADQUARTERS DATA

FORMATION		XX HQ	1/RHQ	2/RHQ	3/RHQ	4/RHQ
HQ I.D.	[8]	45 XX	179 Inf	157 Inf	180 Inf	AD HOC
UNIT TYPE	[8]	Infantry	Infantry	Infantry	Infantry	Armour
HQ ADMIN	0-7	4	4	4	4	4
LEADERSHIP	0-7	5	4	4	4	4
HQ SUPPLY	0-7	5	4	4	4	6
BRITTLE	0-1	0	0	0	0	0
MOVEMENT	0-31	12	N/A	N/A	N/A	N/A
ARRIVAL	0-99	5	N/A	N/A	N/A	N/A
LOCATION	(x,y)	10,1	N/A	N/A	N/A	N/A

BATTALION DATA

FORMATION	II/III	1/1	2/1	3/1	4/1	1/2	2/2	3/2	4/2	1/3	2/3	3/3	4/3	1/4	2/4	3/4	4/4	1/-	2/-	3/-	4/-
UNIT I.D.	[3]	1	2	3	160	1	2	3	156	1	2	3	4	531	601	645		753	191	189	27
LOCATION	(x,y)	6,2	10,1	9,1	10,1	8,2	7,2	9,1	9,1	10,1	9,1	8,2	10,1	7,2	7,2	8,2		7,2	10,1	6,2	9,1
CLASS	0-13	0	0	0	13	0	0	0	13	0	0	0	13	7	11	10		11	11	13	13
MODE	0-3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3		3	3	3	3
EQUIPM'T	0-31	1	1	1	4	1	1	1	4	1	1	1	4	2	7	6		7	7	5	3
MOVEMENT	0-31	8	8	8	12	8	8	8	12	8	8	8	12	9	16	16		16	16	12	14
ARRIVAL	0-99	5	5	5	6	5	5	6	7	23	23	24	25	2	3	3		9	12	13	14
MAX STREN.	0-15	11	11	11	4	11	11	11	4	11	11	11	4	9	10	8		10	10	4	4
CUR. STREN.	0-15	11	11	11	4	11	11	11	4	11	11	11	4	9	10	8		10	10	4	4
RATING	0-15	5	5	5	10	5	5	5	10	5	5	5	10	4	9	10		9	9	11	8
RANGE	0-15	0	0	1	9	0	0	1	9	0	0	1	9	0	1	1		1	1	14	8
FATIGUE	0-7	5	5	5	5	5	5	5	5	6	6	6	5	4	4	4		5	5	5	5
EXPERIENCE	0-7	5	4	4	5	5	4	4	5	4	4	4	5	4	4	4		4	4	5	5
ATTACHM'T	0-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	2	1	2

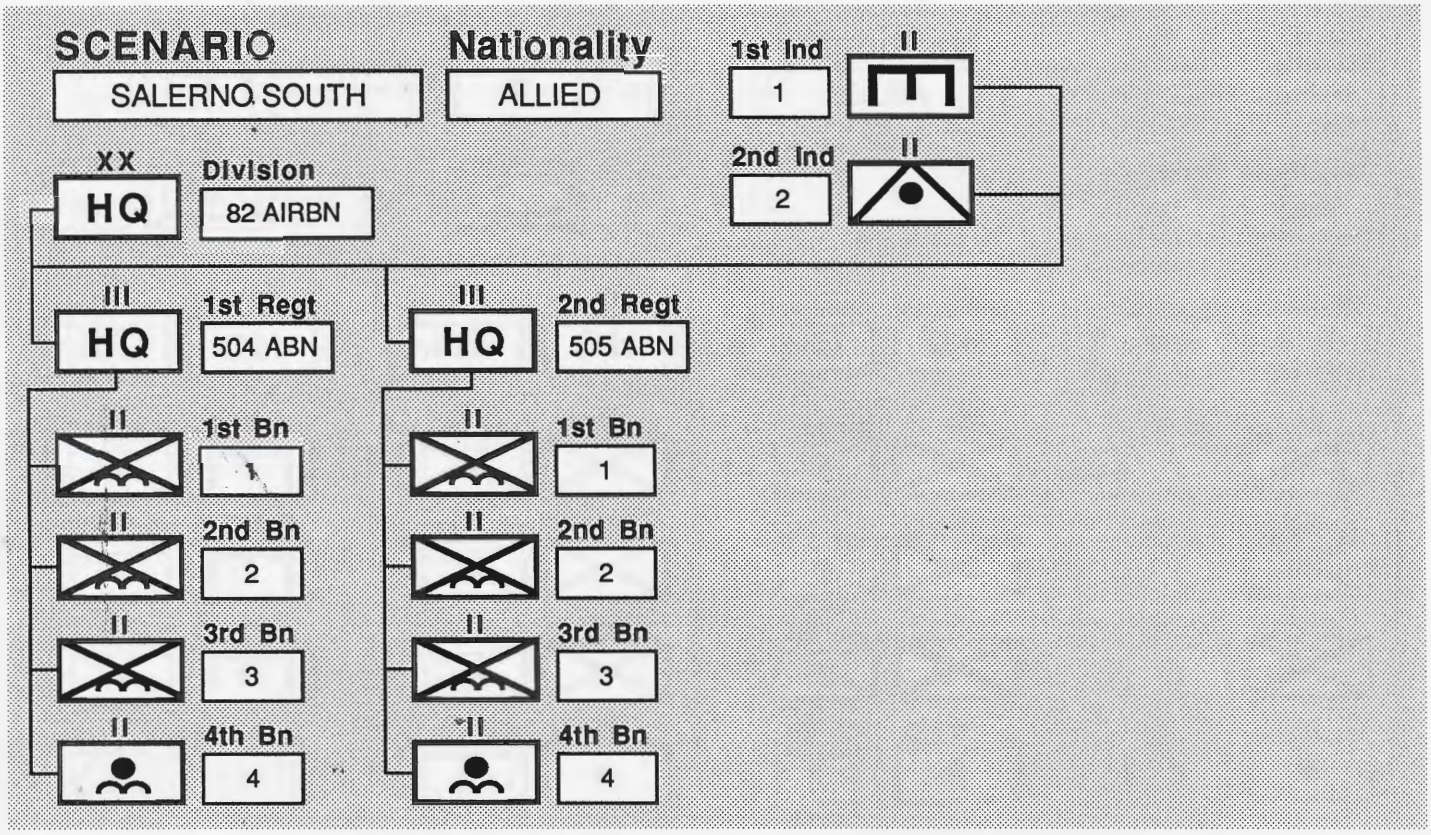


HEADQUARTERS DATA

FORMATION		XX HQ	1/RHQ	2/RHQ	3/RHQ	4/RHQ
HQ I.D.	[8]	36 XX	141 Inf	142 Inf	143 Inf	36 ENG
UNIT TYPE	[8]	Infantry	Infantry	Infantry	Infantry	Engineer
HQ ADMIN	0-7	4	4	4	4	4
LEADERSHIP	0-7	5	4	4	3	5
HQ SUPPLY	0-7	5	6	6	6	5
BRITTLE	0-1	0	0	0	0	0
MOVEMENT	0-31	12	N/A	N/A	N/A	N/A
ARRIVAL	0-99	3	N/A	N/A	N/A	N/A
LOCATION	(x,y)	7,2	N/A	N/A	N/A	N/A

BATTALION DATA

FORMATION	II/III	1/1	2/1	3/1	4/1	1/2	2/2	3/2	4/2	1/3	2/3	3/3	4/3	1/4	2/4	3/4	4/4	1/-	2/-	3/-	4/-
UNIT I.D.	[3]	1	2	3	4	1	2	3	151	1	2	3	132	1	2	3		155	751	11	636
LOCATION	(x,y)	8,2	9,2	8,3	9,1	10,1	10,2	11,1	10,1	8,2	9,1	11,1	7,2	7,2	8,2	9,1		8,2	9,1	10,1	10,1
CLASS	0-13	0	0	0	13	0	0	0	13	0	0	0	13	7	7	7		13	11	7	10
MODE	0-3	3	0	0	3	3	0	0	3	3	3	3	3	3	3	3		3	3	3	3
EQUIPM'T	0-31	1	1	1	4	1	1	1	4	1	1	1	4	2	2	2		5	7	2	6
MOVEMENT	0-31	8	8	8	12	8	8	8	12	8	8	8	12	9	9	9		12	16	9	16
ARRIVAL	0-99	0	0	0	3	0	0	0	3	3	3	3	3	5	4	3		4	15	4	15
MAX STREN.	0-15	11	11	11	4	11	11	11	4	11	11	11	4	9	9	9		4	10	9	8
CUR. STREN.	0-15	11	11	11	4	11	11	11	4	11	11	11	4	9	9	9		4	10	9	8
RATING	0-15	5	5	5	10	5	5	5	10	5	5	5	10	6	6	6		11	9	9	10
RANGE	0-15	0	0	1	9	0	0	1	9	0	0	1	9	0	0	1		14	1	0	1
FATIGUE	0-7	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		5	5	5	5
EXPERIENCE	0-7	4	4	3	5	4	3	3	5	3	3	3	5	5	5	5		5	4	5	4
ATTACHM'T	0-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2	3	1	2

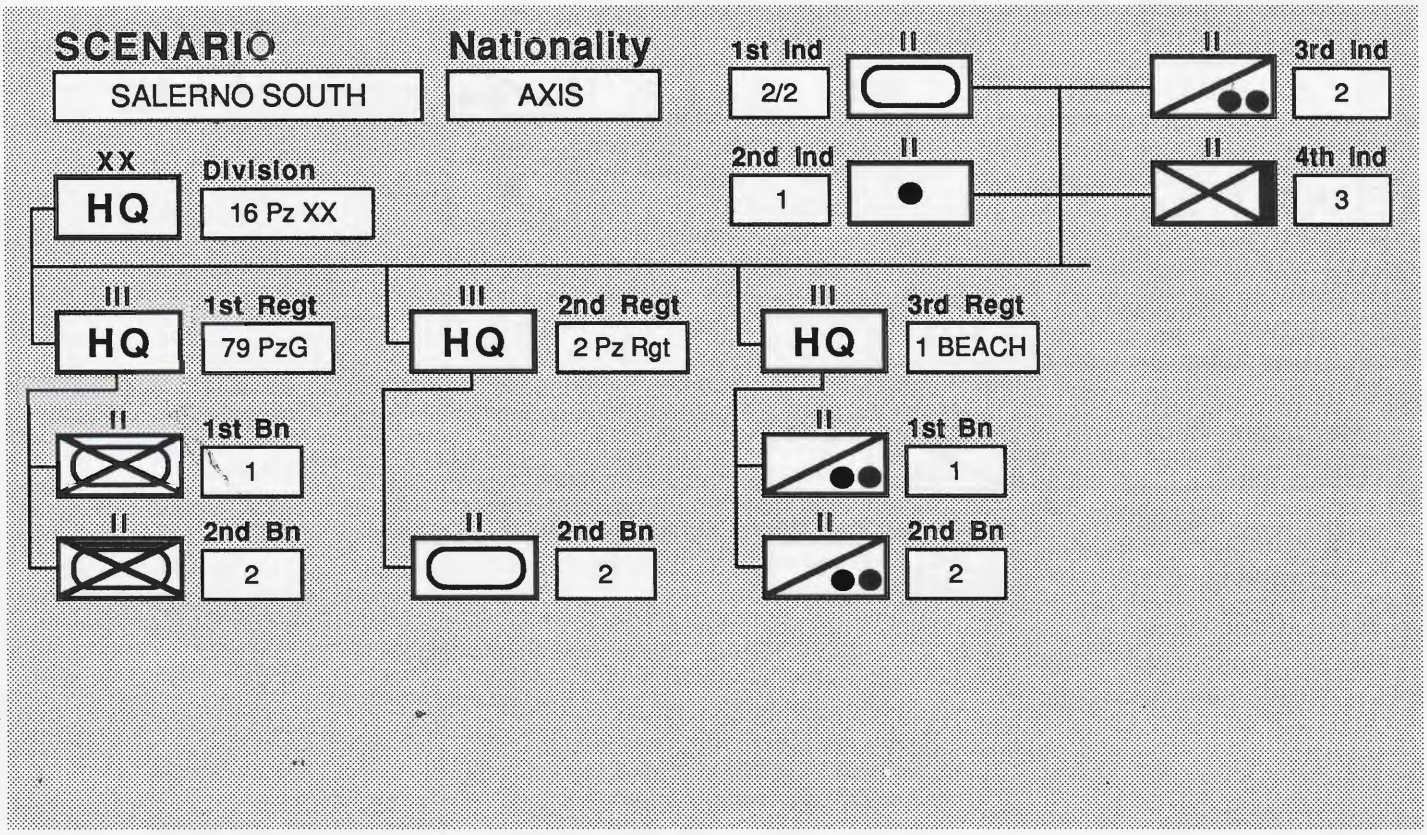


HEADQUARTERS DATA

FORMATION		XX HQ	1/RHQ	2/RHQ	3/RHQ	4/RHQ
HQ I.D.	[8]	82 AIRBN	504 ABN	505 ABN		
UNIT TYPE	[8]	Airborne	Para	Para		
HQ ADMIN	0-7	4	4	4		
LEADERSHIP	0-7	5	5	5		
HQ SUPPLY	0-7	5	3	3		
BRITTLE	0-1	0	0	0		
MOVEMENT	0-31	11	N/A	N/A	N/A	N/A
ARRIVAL	0-99	29	N/A	N/A	N/A	N/A
LOCATION	(x,y)	9,1	N/A	N/A	N/A	N/A

BATTALION DATA

FORMATION	II/III	1/1	2/1	3/1	4/1	1/2	2/2	3/2	4/2	1/3	2/3	3/3	4/3	1/4	2/4	3/4	4/4	1/-	2/-	3/-	4/-
UNIT I.D.	[3]	1	2	3	4	1	2	3	4									1	2		
LOCATION	(x,y)	5,2	7,4	9,2	10,3	10,2	11,4	12,1	13,2									7,3	7,4		
CLASS	0-13	3	3	3	13	3	3	3	13									3	9		
MODE	0-3	1	1	1	1	1	1	1	1									1	1		
EQUIPM'T	0-31	8	8	8	10	8	8	8	10									2	11		
MOVEMENT	0-31	8	8	8	7	8	8	8	7									8	8		
ARRIVAL	0-99	20	20	20	21	24	24	24	24									28	28		
MAX STREN.	0-15	9	9	9	4	9	9	9	4									7	4		
CUR. STREN.	0-15	9	9	9	4	9	9	9	4									7	4		
RATING	0-15	5	5	5	6	5	5	5	6									6	5		
RANGE	0-15	0	0	1	6	0	0	1	6									0	1		
FATIGUE	0-7	5	5	5	5	5	5	5	5									5	5		
EXPERIENCE	0-7	4	4	4	5	4	4	4	5									4	4		
ATTACHM'T	0-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1		

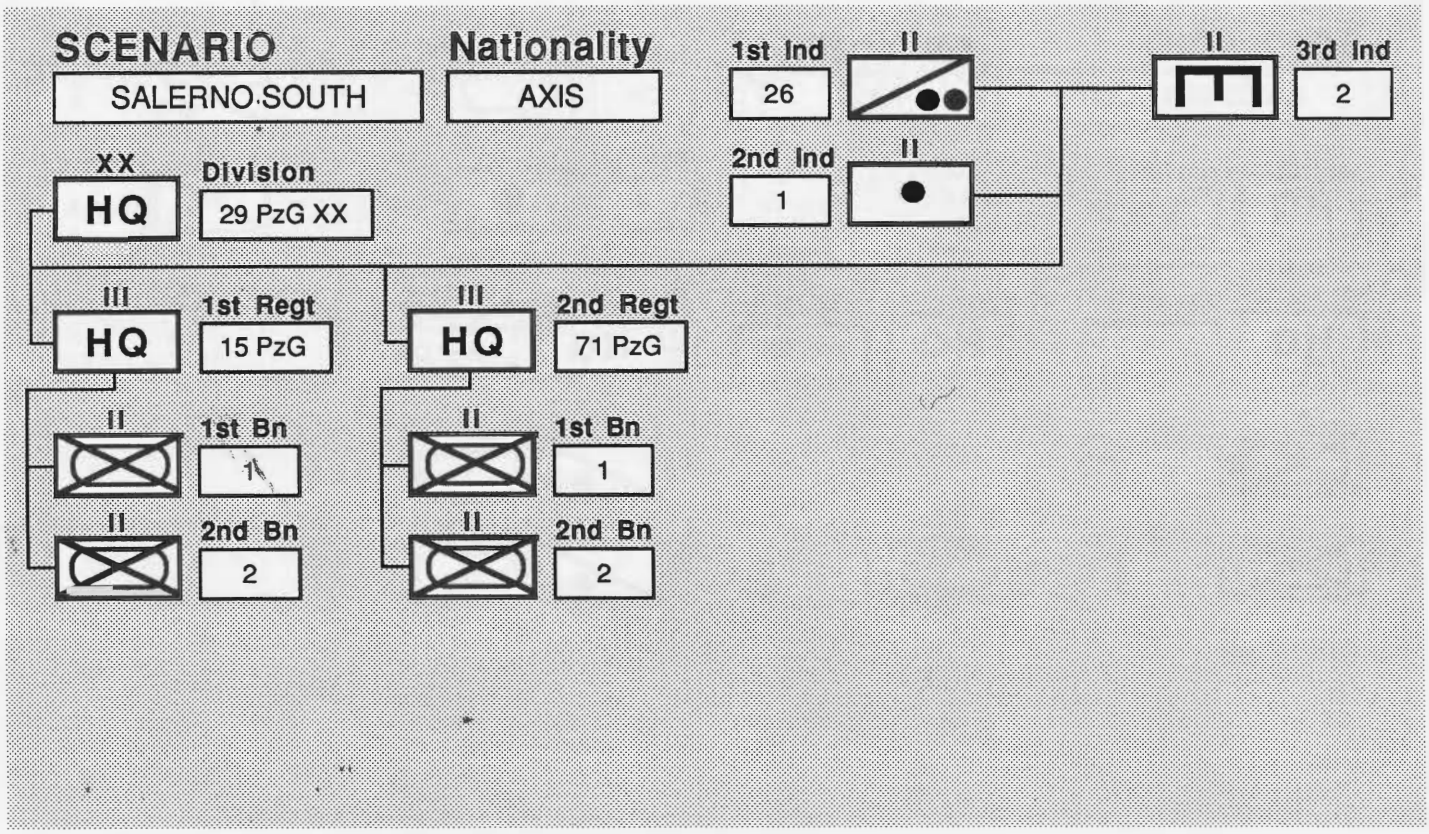


HEADQUARTERS DATA

FORMATION		XX HQ	1/RHQ	2/RHQ	3/RHQ	4/RHQ
HQ I.D.	[8]	16 Pz XX	79 PzG	2 Pz Rgt	1 BEACH	
UNIT TYPE	[8]	PANZER	Pz GREN	PANZER	RECON	
HQ ADMIN	0-7	5	5	5	5	
LEADERSHIP	0-7	5	6	6	7	
HQ SUPPLY	0-7	5	7	7	7	
BRITTLE	0-1	0	0	0	0	
MOVEMENT	0-31	14	N/A	N/A	N/A	N/A
ARRIVAL	0-99	0	N/A	N/A	N/A	N/A
LOCATION	(x,y)	21,13	N/A	N/A	N/A	N/A

BATTALION DATA

FORMATION	II/III	1/1	2/1	3/1	4/1	1/2	2/2	3/2	4/2	1/3	2/3	3/3	4/3	1/4	2/4	3/4	4/4	1/-	2/-	3/-	4/-
UNIT I.D.	[3]	1	2			2				1	2							2/2	1	2	3
LOCATION	(x,y)	4,5	9,6			18,5				9,3	13,3							14,8	8,8	15,6	19,6
CLASS	0-13	2	2			11				6	6							11	13	6	4
MODE	0-3	0	0			0				0	0							0	0	0	0
EQUIPM'T	0-31	15	15			12				16	16							12	17	16	18
MOVEMENT	0-31	16	16			16				22	22							16	12	20	16
ARRIVAL	0-99	3	3			3				0	0							0	0	3	3
MAX STREN.	0-15	8	8			5				2	2							7	3	4	2
CUR. STREN.	0-15	8	8			5				1	1							7	3	4	2
RATING	0-15	8	8			10				8	8							10	12	7	10
RANGE	0-15	0	1			1				0	0							1	9	0	2
FATIGUE	0-7	7	7			7				7	7							7	7	7	7
EXPERIENCE	0-7	6	6			6				7	7							6	6	6	6
ATTACHM'T	0-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1	1	1

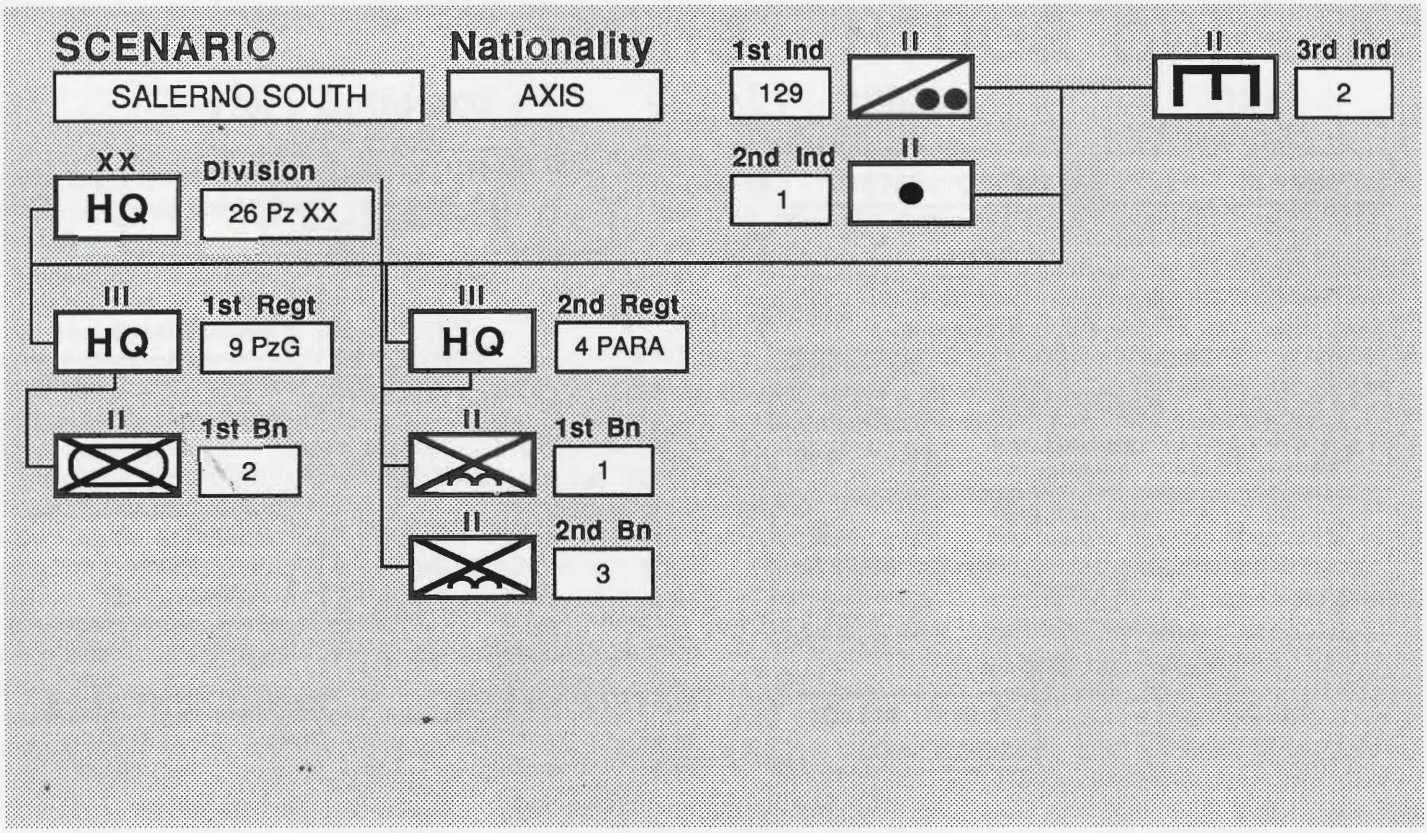


HEADQUARTERS DATA

FORMATION		XX HQ	1/RHQ	2/RHQ	3/RHQ	4/RHQ
HQ I.D.	[8]	29PzG XX	15 PzG	71 PzGREN		
UNIT TYPE	[8]	Pz GREN	Pz GREN	Pz GREN		
HQ ADMIN	0-7	5	5	5		
LEADERSHIP	0-7	6	6	6		
HQ SUPPLY	0-7	4	4	5		
BRITTLE	0-1	0	0	0		
MOVEMENT	0-31	14	N/A	N/A	N/A	N/A
ARRIVAL	0-99	6	N/A	N/A	N/A	N/A
LOCATION	(x,y)	20,20	N/A	N/A	N/A	N/A

BATTALION DATA

FORMATION	II/III	1/1	2/1	3/1	4/1	1/2	2/2	3/2	4/2	1/3	2/3	3/3	4/3	1/4	2/4	3/4	4/4	1/-	2/-	3/-	4/-
UNIT I.D.	[3]	1	2			1	2											26	1	2	
LOCATION	(x,y)	21,17	21,18			24,8	25,8											8,20	12,20	8,20	
CLASS	0-13	2	2			2	2											6	13	7	
MODE	0-3	0	0			0	0											0	0	0	
EQUIPM'T	0-31	15	15			15	15											16	17	2	
MOVEMENT	0-31	16	16			16	16											20	12	16	
ARRIVAL	0-99	5	5			9	9											6	6	7	
MAX STREN.	0-15	9	9			7	7											8	8	8	
CUR. STREN.	0-15	9	9			7	7											8	8	8	
RATING	0-15	8	8			8	8											7	10	10	
RANGE	0-15	0	1			0	1											0	9	0	
FATIGUE	0-7	5	5			5	5											5	5	5	
EXPERIENCE	0-7	6	6			6	6											6	6	6	
ATTACHM'T	0-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1	1	



HEADQUARTERS DATA

FORMATION		XX HQ	1/RHQ	2/RHQ	3/RHQ	4/RHQ
HQ I.D.	[8]	26 Pz XX	9 PzG	4 PARA		
UNIT TYPE	[8]	PANZER	PzGREN	PARA		
HQ ADMIN	0-7	5	5	5		
LEADERSHIP	0-7	5	6	6		
HQ SUPPLY	0-7	4	4	4		
BRITTLE	0-1	0	0	0		
MOVEMENT	0-31	11	N/A	N/A	N/A	N/A
ARRIVAL	0-99	13	N/A	N/A	N/A	N/A
LOCATION	(x,y)	0,18	N/A	N/A	N/A	N/A

BATTALION DATA

FORMATION	II/III	1/1	2/1	3/1	4/1	1/2	2/2	3/2	4/2	1/3	2/3	3/3	4/3	1/4	2/4	3/4	4/4	1/-	2/-	3/-	4/-
UNIT I.D.	[3]	2				1	3											129	1	2	
LOCATION	(x,y)	9,17				3,16	2,17											9,18	8,20	1,17	
CLASS	0-13	2				3	3											6	13	7	
MODE	0-3	0				0	0											0	0	0	
EQUIPM'T	0-31	15				8	8											16	17	2	
MOVEMENT	0-31	16				16	16											20	12	16	
ARRIVAL	0-99	13				14	14											13	14	13	
MAX STREN.	0-15	10				9	9											8	8	8	
CUR. STREN.	0-15	10				9	9											8	8	8	
RATING	0-15	8				7	7											7	10	10	
RANGE	0-15	0				0	1											0	9	0	
FATIGUE	0-7	5				5	5											5	5	5	
EXPERIENCE	0-7	6				6	6											6	6	6	
ATTACHM'T	0-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1	2	

SALERNO SOUTH - Briefing

AXIS	ALLIED
SIDE [16]: GERMANY	SIDE [16]: UNITED STATES
CORPS [16]: LXXVI Pz Korps	CORPS [16]: VI Corps
COMMANDER [16]: Gen. Herr	COMMANDER [16]: Gen. Dawley

DAY	NIGHT	SUPPORT	DAY	NIGHT
10	0	QUANTITY (0-99)	30	10
0	0	RELIABILITY (0-3)	3	2
6	0	RATING (0-15)	9	13

AIR SUPERIORITY (0-7)

STATUS = 6
RELIABILITY = 6

STRONG ALLIED
DEPENDABLE

SCENARIO [16]
Salerno South

BRIEFING [26]
The American Beachead
9 - 16 September, 1943

(0-3)	START =	0	am
(1-31)	DATE =	9	9th SEP 1943
(1-12)	MONTH =	9	
(0-99)	YEAR =	43	
(0-20)	CENTURY =	19	
(1-16)	LENGTH =	8	
(0-3)	WEATHER =	3	CLEAR
(0-7)	FORECAST =	6	CLEARING
(0-7)	CLIMATE =	4	TEMPERATE
(0-31)	MECH MIN =	12	

BRITTLENESS

(0-9) AXIS = 0 %
(0-9) ALLIED = 0 %

NIGHT CAPABLE

(0-1) AXIS = 0
(0-1) ALLIED = 0

SALERNO SOUTH - Terrain Effects Chart

TERRAIN CODE (T0-T15)	TERRAIN NAME [10]	TERRAIN COSTS PER HEX		ATTACK EFFECTS		
		MECH (0-31)	NON-MECH (0-31)	ARM (0-7)	ART (0-7)	INF (0-7)
T0	OCEAN	0	0	0	0	0
T1(RET)	CLEAR	3	1	7	7	7
T2	-	-	-	-	-	-
T3	ROUGH	17	3	3	5	5
T4	-	-	-	-	-	-
T5	MOUNTAIN	24	5	2	4	4
T6	-	-	-	-	-	-
T7	-	-	-	-	-	-
T8	-	-	-	-	-	-
T9	-	-	-	-	-	-
T10	MTN PEAK	0	8	1	3	4
T11	-	-	-	-	-	-
T12	-	-	-	-	-	-
T13	-	-	-	-	-	-
T14	-	-	-	-	-	-
T15	-	-	-	-	-	-
-	ROAD	1	1	N.A.	N.A.	N.A.
-	FORT	N.A.	N.A.	6	6	5
-	TOWN	N.A.	N.A.	5	5	6
-	BRIDGE	2	2	5	7	5
-	RIVER	N.A.	7	4	7	4

SALERNO SOUTH - Objectives

I.D.	Name [11]	Map Loc [x,y]	Div. (0-3)	Start (1-99)	End (1-99)	Points per Turn (0-30)	Points at End (0-255)
1 (AX)	Battipaglia	23,1	0	1	31	0	0
2 (AX)	Eboli	23,6	0	1	31	0	5
3 (AX)	Ponte Sele	22,10	2	1	31	1	25
4 (AX)	Persano	18,5	2	1	31	1	20
5 (AX)	Altavilla	17,9	2	1	31	1	10
6 (AX)	Hill 424	17,10	3	1	31	1	15
7 (AX)	Mt Doglia	14,12	1	1	31	1	15
8 (AX)	Beach 1	10,2	1	8	31	2	45
9 (AX)	P. A. Scarfa	15,2	2	5	31	1	25
10 (AX)	Mt Sottane	8,7	3	1	31	1	15
11 (AX)	Mt Soprane	10,8	2	1	31	1	15
12 (AX)	Roccadaspid	10,12	3	1	31	0	15
1 (AL)	Agropoli	4,1	1	1	31	1	20
2 (AL)	Mt Sottane	8,7	1	1	31	2	30
3 (AL)	Paestum	9,3	1	1	31	2	35
4 (AL)	Roccadaspid	10,12	1	1	31	1	45
5 (AL)	Mt Vesole	8,11	3	1	31	1	35
6 (AL)	My Doglia	14,12	3	1	31	2	35
7 (AL)	Altavilla	17,9	1	1	31	1	30
8 (AL)	Hill 424	17,10	3	1	31	2	35
9 (AL)	P. A. Scarfa	15,2	1	1	31	2	40
10 (AL)	Ponte Sele	22,10	2	1	31	2	55
11 (AL)	Battipaglia	23,1	0	1	31	1	10
12 (AL)	Persano	18,5	2	1	31	2	40

SALERNO SOUTH - Miscellaneous Factors

ADJACENT ENEMY HEX PENALTY (AXIS/ALLIED) (0-15)

1st HEX =	0	1	4th HEX =	2	3
2nd HEX =	1	1	5th HEX =	3	3
3rd HEX =	2	2	6th HEX =	4	4

VICTORY POINTS PER STRENGTH POINT ELIM. (0-15)

	MECH	NON MECH
AXIS	2	1
ALLIED	2	1

MAP SIZE

ACROSS (0-2)	1
DOWN (0-3)	2

SCENARIO UPDATES FOR THE BATTLEFRONT GAME SYSTEM

By Malcolm Power

*With the publication of **Halls of Montezuma** in October, the Battlefront Game System has evolved into a powerful tool for simulating Corps size engagements from the Second World War.*

Understandably, many of the early scenarios need some adjustment to bring them into line with current standards.

*In this issue, four scenarios are upgraded and it is proposed that a similar number be upgraded in future issues until all published scenarios are adjusted to **HOM** standards.*

OMAHA
(From Battles in Normandy)

1. The Map

1a. Map Create. Add minefields to all coastal hexes from Pt Du Hoc (10,1) to the hex one west of Port en Bessin (22,6) inclusive. There should be 13 minefield hexes in all.

1b. Misc. The Allied adjacent hex penalties are 1,1,2,4,6,8.

2. Units

2a. Axis. Adjust the following unit strengths.
Div 1/Rgt 3/Bn 2: max. str. = 5, cur. str = 3.
Div 1/Rgt 3/Bn 3: max. str. = 5, cur. str = 4.
Div 2/Rgt 1/Bn 2: max. str. = 5, cur. str = 3.
Div 2/Rgt 1/Bn 3: max. str. = 5, cur. str = 3.
Div 2/Rgt 1/Bn 4: max. str. = 5, cur. str = 3.

3. Objectives

3a. Axis Objectives. Assign Div 1 to Isigny and Trevieres. Assign Div 2 to Longueville and Tour.

3b. Allied Objectives. Assign Div 1 to Trevieres and Formingy. Assign Div 2 to To Carentan.

4. Errata

A road from the south edge of the map to Formingy via Trevieres has been omitted. The disk is correct.

SAIPAN
(From Battlefront)

1. The Map

1a. Misc. The Allied adjacent hex penalties are 1,2,3,4,5,6.

2. Units

2a. Axis. Adjust the following unit strengths.
Div 1/Rgt 2/Bn 1: max. str = 12, cur. str = 8.
Div 1/Rgt 2/Bn 2: max. str = 12, cur. str = 8.
Div 1/Rgt 2/Bn 3: max. str = 12, cur. str = 9.
Div 2/Rgt 1/Bn 1: max. str = 12, cur. str = 9.
Div 2/Rgt 1/Bn 3: max. str = 12, cur. str = 7.
Div 2/Rgt 3/Bn 2: change location to 18,5.
All Axis HQs have a movement allowance of 9.

2b. Allied. Adjust the following HQ values.
Div 1: admin (6), supply (7), location (9,16).
Div 2: admin (5), supply (7), location (8,17).
Div 3: admin (5), supply (7).
Add 1 to the experience rating of all battalions in Div 1.
All Allied HQs have a movement allowance of 12.

3. Objectives

3a. Allied Objectives. Assign Div 1 to Tipopale, Garapan, 'Death Valley' and Marpi Field. Assign Div 2 to Asuto Field, Taboua Bay and Moon Bay. Assign Div 3 to Nafutan Point and Mt Petosukara.

3b. Victory Points. Adjust the following Allied objectives.
Garapan: active (1-63), VPs/turn (2).
Mt Petosukara: active (1-63), VPs/turn (2).

4. Briefing

The climate is temperate. Axis units are night capable.

5. Errata

There is a road running from 'Death Valley' to the lagoon. It runs through hexes (16,15) (15,15) (14,16) (13,16) (13,17) (12,18) (11,18) (10,18) and (10,17). The road is present on the disk.

GUADALCANAL
(From Run 5 Issue 3)

1. The Map

1a. Misc. The Allied adjacent hex penalties are 1,2,3,4,5,6.

2. Units

2a. Axis. Adjust the following unit strengths.

Div 1/Rgt 1/Bn 1: max. str = 12, cur. str = 9.
Div 1/Rgt 1/Bn 2: max. str = 12, cur. str = 9.
Div 1/Rgt 1/Bn 3: max. str = 12, cur. str = 9.
Div 1/Rgt 1/Bn 4: max. str = 4, cur. str = 3.
Div 1/Rgt 2/Bn 1: max. str = 12, cur. str = 9.
Div 1/Rgt 2/Bn 2: max. str = 12, cur. str = 9.
Div 1/Rgt 2/Bn 3: max. str = 12, cur. str = 9.
Div 1/Rgt 3/Bn 1: max. str = 12, cur. str = 9.
Div 1/Rgt 3/Bn 2: max. str = 12, cur. str = 9.
Div 1/Asset 1: max. str = 10, cur. str = 8.
Div 1/Asset 2: max. str = 4, cur. str = 3.
Div 1/Asset 3: max. str = 4, cur. str = 2.
Div 1/Asset 4: max. str = 6, cur. str = 4.
Div 2/Rgt 1/Bn 1: max. str = 12, cur. str = 9.
Div 2/Rgt 1/Bn 2: max. str = 12, cur. str = 5.
Div 2/Rgt 1/Bn 3: max. str = 12, cur. str = 9.
Div 2/Rgt 1/Bn 4: max. str = 4, cur. str = 4.
Div 2/Rgt 2/Bn 1: max. str = 10, cur. str = 9.
Div 2/Rgt 2/Bn 2: max. str = 10, cur. str = 9.
Div 2/Rgt 3/Bn 1: max. str = 10, cur. str = 7.
Div 2/Rgt 3/Bn 2: max. str = 10, cur. str = 7.
Div 2/Asset 1: max. str = 10, cur. str = 8.
Div 2/Asset 2: max. str = 4, cur. str = 4.
Div 2/Asset 3: max. str = 6, cur. str = 4.
Div 2/Asset 4: max. str = 4, cur. str = 3.
All Axis HQs have a movement allowance of 8.

2b. Allied. Adjust the following unit values.

Rgt 1/Bn 1: max. str = 14, cur. str = 11.
Rgt 1/Bn 2: max. str = 14, cur. str = 10.
Rgt 1/Bn 3: max. str = 14, cur. str = 11.
Rgt 1/Bn 4: max. str = 4, cur. str = 4.
Rgt 2/Bn 1: max. str = 14, cur. str = 12.
Rgt 2/Bn 2: max. str = 14, cur. str = 11.
Rgt 2/Bn 3: max. str = 14, cur. str = 11.
Rgt 2/Bn 4: max. str = 4, cur. str = 4.
Rgt 4/Bn 1: max. str = 10, cur. str = 6.
Rgt 4/Bn 2: max. str = 10, cur. str = 6.
Rgt 4/Bn 3: max. str = 10, cur. str = 8.
Rgt 4/Bn 4: max. str = 6, cur. str = 6.
Asset 1: max. str = 7, cur. str = 7.
Asset 2: max. str = 14, cur. str = 13.
Asset 3: max. str = 9, cur. str = 9.
Asset 4: max. str = 8, cur. str = 8.
All Allied HQs have a movement allowance of 12.

3. Objectives

3a. Axis Objectives. Assign Div 1 to Lunga and Bloody Ridge. Assign Div 2 to Henderson.

3b. Allied Objectives. Assign Div 1 to Henderson and Lunga.

4. Briefing

The climate is tropical. Axis units are night capable.

5. Errata

The Axis objective 'Bloody Ridge' is in hex 13,6. The disk is correct.

Allied VPs per strength point lost should read 5,3. Again, the disk is correct.

BASTOGNE
(From Battlefront)

1. The Map

1a. Misc. The Axis adjacent hex penalties are 0,1,2,2,3,4. The Allied adjacent hex penalties are 0,0,0,1,2,3.

2. Units

2a. Axis. Adjust the following HQ values.

Div 1: movement (12), supply (3).

Div 2: movement (12), supply (3).

Div 3: movement (8), supply (3).

Subtract 1 from the experience rating of all battalions in Div 1 except armour and tank destroyer types.

Asset 1 from Div 2 arrives on turn 1 in hex 21,0. Rgt 2 and asset 2 from Div 2 arrive on turn 3.

2b. Allied. Adjust the following HQ values.

Div 1: movement (12).

Div 2: movement (11), supply (7), admin (6).

Div 3: movement (12), supply (6), admin (6), location (7,20).

Add 2 to the fatigue value of all battalions in Div 1. Rgt 2 from Div 1 arrives on turn 2.

Add 1 to the experience value of all battalions in Div 2.

Div 3/Rgt 1/Bn 2: location (9,20).

Div 3/Rgt 1/Bn 3: turn (19), location (9,20).

Div 3/Rgt 2/Bn 2: location (14,20).

Div 3/Rgt 2/Bn 3: location (12,20).

Div 3/Rgt 3/Bn 1: location (8,20).

Div 3/Rgt 3/Bn 2: location (9,20).

Div 3/Rgt 3/Bn 3: turn (20),location (8,20).

Div 3/Asset 1: location (15,20).

Div 3/Asset 3: turn (18).

Div 3/Asset 4: turn (20).

3. Objectives

3a. Axis Objectives. Assign Div 1 to Nives, Bastogne and Benonchamps. Assign Div 2 to Salle, South Edge, Hompre, Sibret and E. Bastogne. Assign Div 3 to Chenogne.

3b. New Axis Objectives. Create two new Axis objectives. E. Bastogne - location (14,9), start turn (1), end turn (31), VPs/turn (2), VPs end game (25). Benonchamps - location (21,9), start turn (20), end turn (31), VPs/turn (0), VPs end game (0).

3c. Allied Objectives. Assign Div 1 to Bastogne and Noville. Assign Div 2 to Sibret, Longchamps, South Edge, E. Bastogne and Crossroads. Assign Div 3 to Hompre, Neffe, Benonchamps and N. Bastogne.

3d. New Allied Objectives. Create three new Allied objectives. E. Bastogne - location (14,9), start turn (1), end turn (31), VPs/turn (1), VPs end game (0). N. Bastogne - location (13,8), start turn (15), end turn (31), VPs/turn (1), VPs end game (0). Crossroads - location (19,8), start turn (1), end turn (10), VPs/turn (1), VPs end game (0).

3e. Modified Allied Objectives. Modify two Allied objectives objectives. Bastogne - start turn (12), VPs/turn (3). South Edge - start turn (6), VPs/turn (2).

4. Briefing

Change Allied daylight air support value to 16.

5. Errata

The road from Chaumont to the edge of the map is missing from the disk. The bridge at Benonchamps has been omitted from the map. It is shown on the disk. ◆

Continued from p.11

(7)] and give Price a poor leadership value, it becomes much more tricky to keep Lovell's mind on the job.

Delayed Arrival. Assume Hamilton's division was late in taking up its position. Alter the start location of each brigade to (15,17) and change the likelihood of each brigade to 5. Give Hamilton a defensive order with the Robinett redoubt as his objective. Give each brigade an objective value of 14; Corinth to make sure they march in the right direction when they enter the map. ◆

HOW TO WIN AT REACH FOR THE STARS

by Gregor Whiley and Daniel Stevens

The recent release of the Macintosh version of ***Reach for the Stars (3rd Ed.)*** *also saw the introduction of the advanced game option, soon to be available on Apple and Commodore as well as a number of other machines.*

When activated, it introduces a host of new rules such as limited navigation ranges for space vessels, research into improved industrial technology and navigation technology, planetary armies which may repel invaders, and more.

Meanwhile, the basic game is still as exciting as ever. Here are some tips for old, new or intending users on how to play both ***Reach for the Stars*** *scenarios... and win.*

PREPARATION

It is useful to have a copy of the map on which to scribble notes and make plans. On the Macintosh you may open up the Full Map and then use the standard function key sequence (Command shift 4) to print the front window. This is most handy if you are using the random star option.

If playing with other humans then it is never to early to begin making treaties, secret or otherwise, and planning double crosses.

THE BASIC GAME

The first key to the economics of the basic game is population control. Each point of population produces 2 RPs but costs 1 RP to maintain for a net gain of 1 RP per point of population. However, population in excess of the first fifty do not produce any RPs at all but do demand consumer goods. The rate of population growth increases with Social Level and also with the absolute population level. Social Level is one of the main determinants of RP production so it has to be made as high as possible. The problem is that your subjects respond to the good life by breeding like rabbits, leading to the disaster of over-population.

The only solutions are to ship 'volunteers' off planet or to not maintain your population. It is possible to create enough transports in each production turn to get rid of excess population, however, each transport costs 10 RPs, so unless your pioneers are actually needed for starting another colony or taking someOne else's, this procedure is waste of RPs. Your initial colony will start with a population of 50 and should not be allowed to rise too much above this level. Some players like to keep the population even lower.

The act of not maintaining your population is a desperate one. The ungrateful populace will riot, reducing industry and social level and possibly (hopefully) killing some of themselves off in the process. If economic circumstances are such that you must deny your subjects some of the necessities of life, keep the shortfall small. A large deficit could see the population go ape and the planet back in the stone age.

Once you've sorted out your home world it's time to deal with the rest of the universe. You should have had your explorers scouting out likely spots. You want something with a reasonable industry and environment that is not too far away. Soon after starting your second colony you should think about moving to Mark II technology, something you should achieve around turn 20.

In order to have the luxury of continuing to run an economy, you will need a long term military plan. This will depend on the type of opponent you are facing. We will describe the behaviour of veterans, as the others are lesser opponents. In fact beginners deliberately make mistakes, in order to make themselves easier to beat.

Veterans work from a hate index. All veterans hate human players simply because they exist (for which you can't blame them). They also hate any player who takes a colony from them (very sensible) and the player coming first (quite human really). If you are a human player, coming first, who takes a colony from a veteran, you have just guaranteed yourself some retribution. Conceivably, you could do this to more than one computer player. This is what we call a high risk option (or a totally stupid option). The best way to win is to come from behind.

Sometimes the burden of choosing an opponent will be lifted from you, as an invasion fleet pays a courtesy call. Sometimes

you might be left alone for a while but as Clark Kent continually discovers, being inoffensive yourself is no guarantee of a peaceful existence. Choice of opponents is an art and depends on a number of factors.

Your first task is to locate them. The disappearance of explorers as they are vaporized by real warships over a star system is one clue. As your economy progresses you can start sending Mk 1's on lone recon missions. These will force a real space battle and at least reveal the number of enemy ships before they are valiantly but inevitably reduced to their component atoms. If there are no enemy warships you will get a report on the star system and interdict it, cutting it off from all Global RPs. (This is why you should always maintain a standing patrol over all of your planets).

When it comes to space battles, the overwhelmingly important principle is that of concentration. As the range of warships increases markedly at higher technologies it becomes impossible to defend all parts of your empire at once. Your opponents will simply concentrate and crush your detachments. You cannot stop this. You must be able to respond in kind or you are doomed.

THE ADVANCED GAME

Classic Opening

Resource points are, as always, the key to winning the game. In the advanced game a problem occurs as the planet's social environment climbs, increasing the cost for maintaining your population. As a result it is important that you do not spend RPs to increase the planet's social level, as it will drift up towards the planetary environment anyway. Your first priority is to increase industrial technology as early as possible to level two and to maximise the planet's industry.

After reaching the second level of industrial technology, increase the planetary environment to 85 or 90. The social environment will again climb towards this new level although you may choose to push it along a bit. Once both the social and planetary environments cross the 80 mark the planet's natural industrial capacity will begin to increase and you will rapidly climb out of the "resource hole".

Note that once you start paying three or more resource points per population your inhabitants are consuming more RPs than they produce in the RP formula.

At most, build one Mark I for initial exploration purposes. This should be delayed until turn ten. The cost of such a vessel whilst still struggling with your initial resource problems can be prohibitive.

The Trout Variant

This variation on the Classic Opening involves eliminating your initial planetary army on the first production round. This means you will also lose the twelve PDBs that the army is supporting. The advantage is that you save on the army's maintenance cost (4 RPs per army) at an early stage of the game, giving you that extra edge on initial development. It is unlikely that you will find yourself in need of planetary defences until turn 20-40 or later in the advanced game, due to the navigation limitation placed on space travel.

Gilligan's Island

Once in a while you may begin a game in a star system that has no neighbours within range of navigation technology one. Don't Panic! This is an excellent position from which to use the Trout Variant with a Classic Opening, based on the assumption that if you can't get to them, they can't get to you. Do be aware of the fact that computer players, presumably through the employment of fiendish cybernetic technology, have a one hex bonus on all nav ranges. Once you have acquired the second level of industrial technology, switch your R&D efforts to attaining navigation technology two.

The Bell Colonisation Technique

When picking early colonisation targets, consider the fact that population becomes a drag on the economy. It is often best to choose a planet that has a population capacity of between 15 and 20 with a high industrial capacity.

A planetary environment as low as 35 will suffice, as long as you land with enough global resource points allotted to increase this to a minimum of 40, give a quick boost to the social environment and perhaps some initial industrial development. Unless you wish to force the population or industrial capacity up, by going over 80 in both social and planetary environments, do not increase the planetary environment above 59. Your social level will then remain low enough so as not to increase your population consumption requirements.

The Picket Play

Unlike basic ***Reach for the Stars*** there is a great emphasis on territory, based on navigation range and colony location. This means it is possible to place patrol ships in a cloud about your own territory that can detect and perhaps repel alien interlopers. This is achieved by placing one or two Mark I vessels about each star system within range. If any aliens wish to colonise in your region of space, or build up for an attack on one of your worlds, you are then likely to know about it.

Beware, the cost in setting up your picket is minimal once you have three or four planets fully industrialised but setting up a picket early in the game can be detrimental to your economic foundation.

A more complicated variation on this is to create patrol squadrons of around 6-10 ships, each squadron moving continuously around three star systems assigned to it. This requires much more administration on your part but such patrols are more effective when they come across enemy fleets.

Fortress Whiley

The object of this game play is to determine where your nearest opponents are and then colonise away from them. The planets closest to your opponents, initially your oldest worlds and later in the game worlds around the edge of your empire, become fortress planets, heavily armoured and patrolled while your inner worlds may be significantly free of defence spending. Thus your inner worlds become efficient RP producers that subsidise all your other colonisation and conquest efforts.

The danger with this strategy is the potential for an alien break-through when one of your fortress worlds is conquered, allowing a strike into the soft interior. Be prepared for this and respond quickly if it occurs. The premise behind this strategy is that the RPs saved by not fortifying all planets will allow a larger space navy to be built when your system is finally threatened.

The Isolationist

Occasionally it is possible to avoid contact with the other players for a considerable

Continued on p.48

HURTGEN FOREST

West Wall Offensive
16th - 23rd November, 1944

A SCENARIO FOR THE
BATTLEFRONT GAME SYSTEM

By Ed Robisheaux

October, 1944. *The break out from the Normandy Peninsula had been made. The wild race across eastern France, culminating in operation Market-Garden, the failed attempt to end the war in 1944, was over. Allied armies were poised on the borders of the Germany. One more blow would smash the Thousand Year Reich forever.*

THE SITUATION

In the north, Montgomery's 21st Army Group, stalled on the Rhine, was clearing the Peel Marshes and the seaward approaches to Antwerp. Bradley's 12th Army Group, just to the south of the British, had taken Aachen after bitter fighting, only to be stopped at Schmidt. In the south, Dever's 6th Army Group had ground to a halt in the Vosges Mountains after a successful crossing of the Moselle late in September. All across the western front, from the Dutch border in the north to the Swiss frontier in the south, the great Allied offensive was over. Logistics and weather had combined to do what the Germans could not; stop the Allied drive on the Reich.

This was the background to the strategic conference of October 18 1944, convened at Brussels to plan strategy on the next phase of the war. Three factors weighed heavily on Eisenhower's mind and these largely determined the outcome of the conference.

German casualties were running at at approximately 4,000 per day, or one 1944 type infantry division every other day. Since this was well below the German replacement rate, the enemy was growing stronger rather than weaker.

A pause in offensive operations would give the Wehrmacht time to train its new formations and prepare defensive positions.

Allied intelligence indicated that German jet aircraft production was on the threshold of a large increase in output, and that the Germans were close to developing a proximity fused anti-aircraft projectile. That spelled trouble for the massed strategic bombing campaign to contain the German war economy.

The conference concluded with the decision to resume the offensive, code named Operation QUEEN, an attack by the American First and Ninth Armies. The Allies reasoned that by husbanding their supplies and attacking on a narrow front with overwhelming air support, a decisive break through might be achieved. If the weather co-operated, QUEEN would begin on the 5th of November with 4,500 aircraft, half of them heavy bombers, pulverizing the German front from Geilenkirken in the north to Hurtgen in the south. To appreciate the size of this undertaking, operation COBRA, the break out from Normandy, was supported by just 1500 aircraft. In the First Army sector alone, 40 battalions of field artillery were positioned to fire on an eight mile front. The whole operation had all the earmarks of another great breakout.

Operation QUEEN consisted of two efforts, by the Ninth and First Armies. Ninth army was to attack along a front just to the south of Geilenkirken extending to and encompassing Wuselen. The initial effort was to be made by the XIX Corps, consisting of the US 2nd Armored, 29th Infantry and 30th Infantry. Its objective was to seize Julich and Linnich, forcing the crossing of the Roer River. First Army was to attack just to the south of the Ninth. The lead element was VII Corps, consisting of 104 Infantry, 3rd Armored and 1st Infantry. Later it was reinforced by V Corps, including the 8th Infantry. First Army's initial effort was to capture the Eschweiler-Weisweiler industrial complex, followed by the capture of Duren and the forcing of the Roer River crossings.

In order to understand the First Army offensive we must understand four things: the terrain, the weather and the attacking and defending forces. The battle was fought in a dense growth commonly referred to as the Hurtgen Forest. Characterized by thickly treed land with a heavy undergrowth, the forest canalized movement along its few

Equipment

0	
1	Pz Gren
2	Assault
3	105mm SP
4	150mm SP
5	155mmHow
6	105mmHow
7	150mmHow
8	M10s
9	M4s
10	75mm AT
11	StG IIIs
12	APC 234s
13	MkIVs
14	MkVs
15	Gren
16	Half Trk
17	Paras
18	Glider
19	75mm How
20	Demol'n
21	M5s/APCs
22	105/50SP
23	Engineer
24	Recon
25	Rifle
26	Fusilier
27	4.5in How

roads and paths. the terrain was wet, plagued by fog and heavily mined in places. Fallen trees and numerous gorges made for ideal defensive terrain.

Splitting the Hurtgen Forest in two was an section of ground running from Stohlberg to Eschweiler, the "Stohlberg Corridor". It was the only sector truly suited for armored operations. North of the corridor the woods generally gave out onto a plain that eventually merged with the Roer River further to the north. South of the corridor extended the Hamich ridge, dominated by Hill 232, which denied access from the Stohlberg Corridor to Eschweiler-Weisweiler.

To smash through this forbidding terrain, VII Corps commander lightning Joe Collins deployed three reinforced divisions, the 104th Infantry, 1st Infantry and the 4th Infantry, all supported by 32 battalions of field artillery and numerous tank and tank destroyer battalions. The 104th (Timberwolf) Division commanded by Terry Allen was a green division deployed north of the Stohlberg Corridor. Its objective was to clear the woods north of the Corridor and eventually fight its way into Eschweiler. The division lay on the corps boundary with the Ninth Army located further to the north. The 104th had landed in Europe on 24 August and had yet to fight its first engagement.

The 3rd armored was a veteran unit of proven capacity commanded by Maurice Rose. Its mission was to enter the Stohlberg Corridor, break up whatever German formations it encountered along the way, and assist in securing Eschweiler and Weisweiler. The 3rd Armored was attached to the 1st Infantry and only Combat Command B participated in the offensive.

The 1st Infantry needs little introduction. An elite unit, its mission was to attack south of the Stohlberg Corridor along the Hamich Ridge towards Hill 232, spreading out its front as it advanced in the general direction of Gressenich, Hamich and Merberich towards the Roer plain. To assist it, the 47th Infantry Regiment of the 9th Division was attached. 1st Infantry's sector was to be the main thrust of Operation QUEEN.

On the right of the 1st Infantry lay the 4th Infantry. A veteran unit, it had to fight its way through the densest portions of the Hurtgen Forest, and break out of the woods in the region between Gey and the Hof Hardt castle. 4th Division was spread across four miles of difficult terrain and its 12th Regiment began the battle chewed up from earlier German counter attacks from Hurtgen. The absence of major roads in the forest would make re-supply precarious.

Opposing this formidable force was a motley collection of ragged German formations outnumbered by five to one. Opposite the 4th Division in the south the Germans had deployed the 275th Infantry Division. The 275th was an amalgamation of 6,500 men from 37 different, previously shattered, combat units and had no reserves. Its 985th regiment was down to 250 men but the division boasted 106 artillery pieces.

In the center the Germans had posted the 12th Infantry Division. This unit had three regiments of infantry plus artillery, 6,400 men in all. German commanders considered it the best division in the sector and it was rated as capable of limited offensive operations. It was scheduled for relief by the 47th Volks Grenadier Division at the beginning of the offensive.

The 47th Volks Grenadier Division was a new unit which had drawn half its men from Luftwaffe and Kriegsmarine formations, plus a sprinkling of units gathered from all over Germany. Their equipment was good, but the division was given only six weeks training before commitment. Not much was expected of it and it lived up to those expectations, being smashed by the 1st Division in three days.

Bordering the Corridor and to the north lay units of the 3rd Panzer Grenadier Division. This unit had been badly ground up in the battle for Aachen, and was not considered as good as the 12th. Not considered fit for offensive operations, the 3rd Panzer Grenadier was fortunate to be opposite the untried 104th.

Operation QUEEN began at 12:00 noon on the 16th of November, and began badly. Fog and mist grounded all but 2,400 heavy bombers on their runways in England. Bad weather also crippled the effort from the IX and XXIX tactical air forces assigned to close air support. What did get through failed to achieve anything like the psychological impact of a much smaller effort made in Normandy back in August, and the Germans were scarcely affected.

Timed to coincide with the air support came the artillery preparation. 694 field pieces fired off 50,000 rounds on the afternoon of the 16th. Here to, things did not begin with great success. In the sector of the 104th Division, the Division's artillery inexplicably failed to fire at all on the first day.

The infantry and tank attacks began on schedule and immediately ran into difficulties everywhere. In the north, the 104th Division pushed east with curious timidity and could not turn the flank north of Stohlberg. In the center CCB of the 3rd Armor abruptly stalled in front of the Donnerberg Castle,

Continued on p.39

HURTGEN FOREST - Briefing

AXIS	ALLIED
SIDE [16]: GERMANY	SIDE [16]: UNITED STATES
CORPS [16]: LXXXI Korps	CORPS [16]: VII Corps
COMMANDER [16]: Friedrich Schack	COMMANDER [16]: Joe Collins

DAY	NIGHT	SUPPORT	DAY	NIGHT
4	0	QUANTITY (0-99)	30	0
0	0	RELIABILITY (0-3)	2	0
2	0	RATING (0-15)	4	0

AIR SUPERIORITY (0-7)

STATUS = 7
RELIABILITY = 4

STRONG ALLIED LIKELY

SCENARIO [16]: Hurtgen Forest

BRIEFING [26]: West Wall Offensive, 16 - 23 November, 1944

(0-3)	START =	0
(1-31)	DATE =	16
(1-12)	MONTH =	11
(0-99)	YEAR =	44
(0-20)	CENTURY =	19
(1-16)	LENGTH =	7
(0-3)	WEATHER =	1
(0-7)	FORECAST =	1
(0-7)	CLIMATE	0
(0-31)	MECH MIN =	12

am
16th NOV 1944

HEAVY OVERCAST
STORMY
EUROPEAN

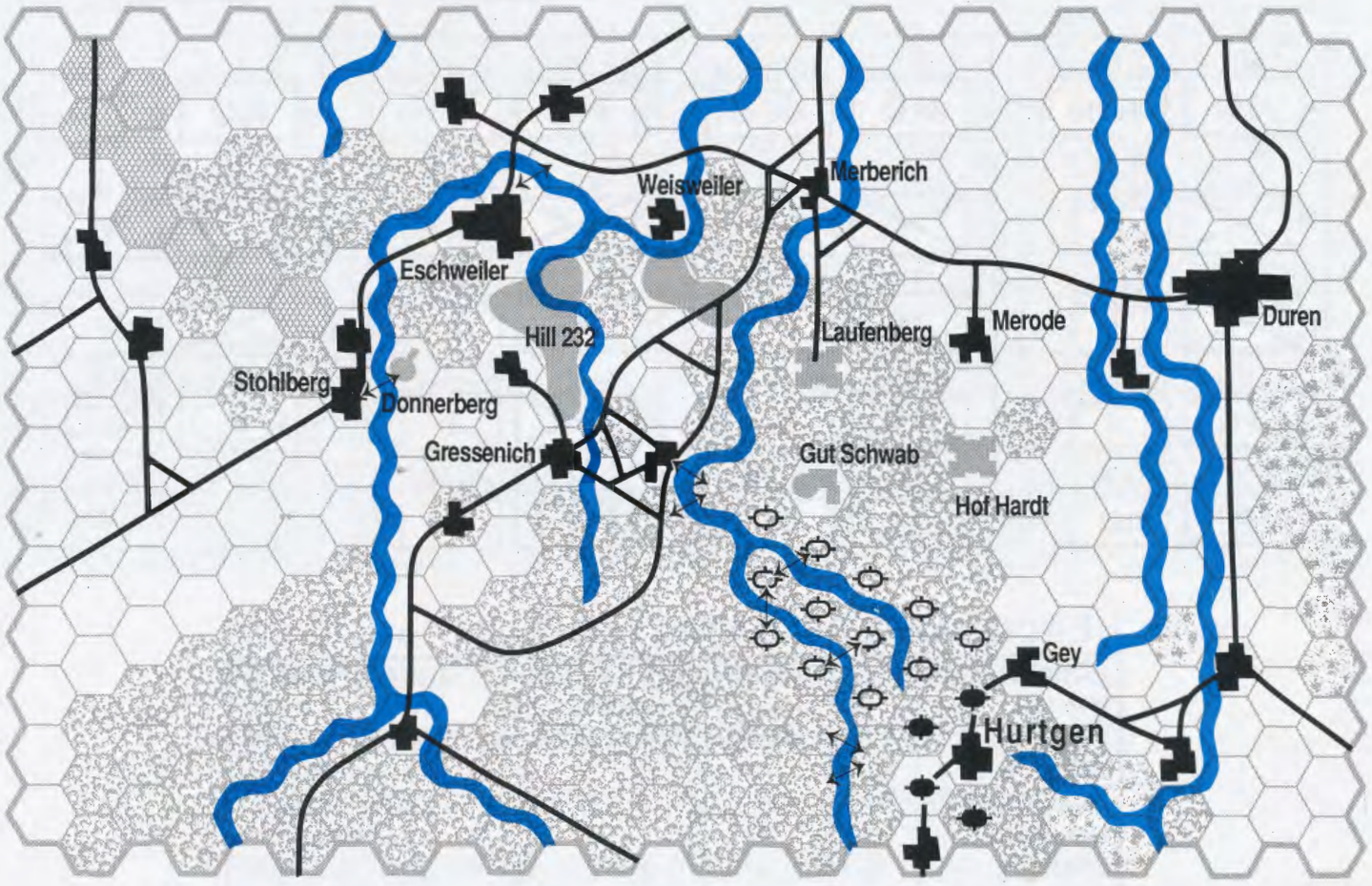
BRITTLENESS
(0-9) AXIS = 0 %
(0-9) ALLIED = 0 %

NIGHT CAPABLE
(0-1) AXIS = 0
(0-1) ALLIED = 0

HURTGEN FOREST - Terrain Effects Chart

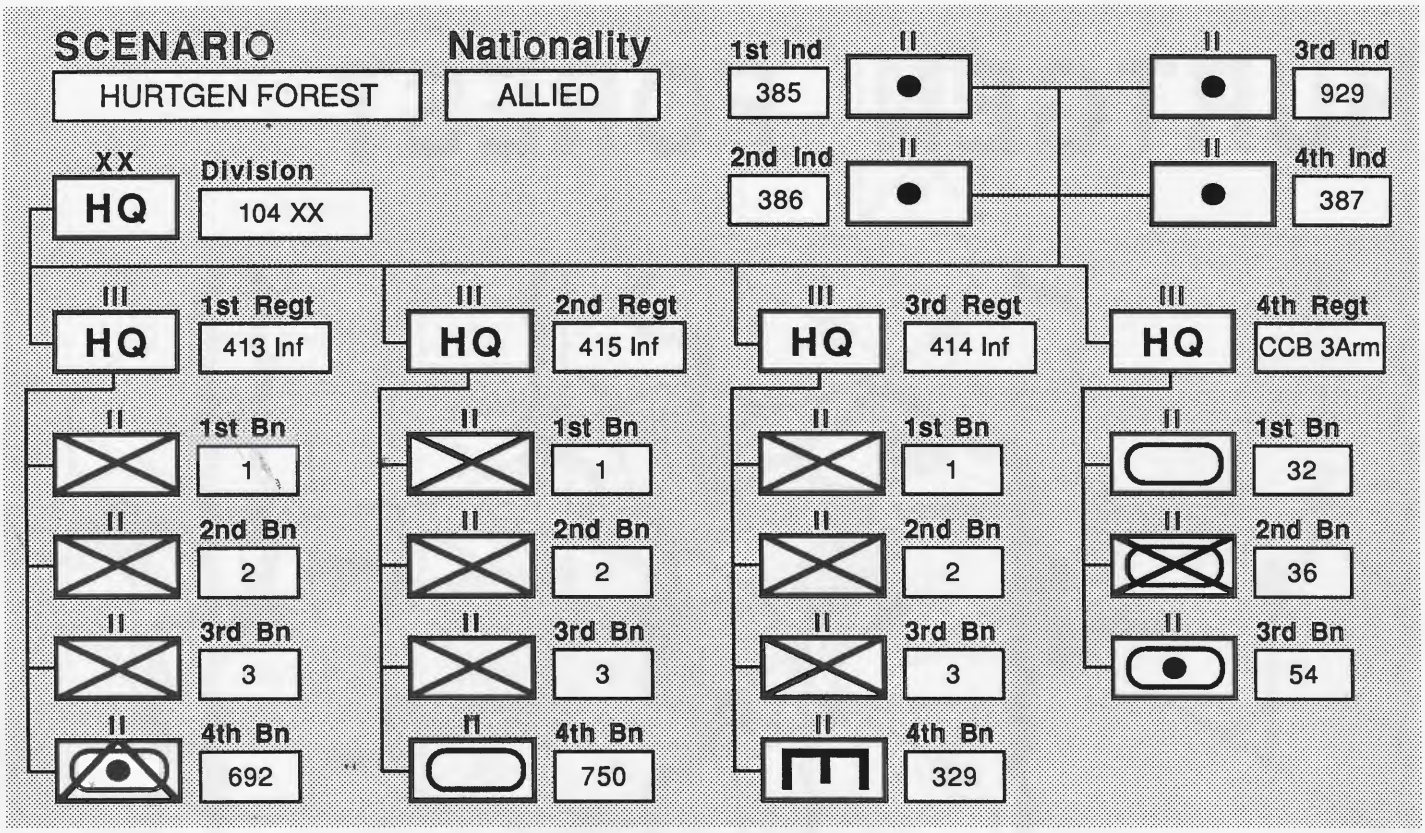
TERRAIN CODE (T0-T15)	TERRAIN NAME [10]	TERRAIN COSTS PER HEX		ATTACK EFFECTS		
		MECH (0-31)	NON-MECH (0-31)	ARM (0-7)	ART (0-7)	INF (0-7)
T0	OCEAN	0	0	0	0	0
T1(RET)	OPEN	3	2	7	7	7
T2	WOODED	9	3	5	6	6
T3	RIDGE	16	4	3	6	7
T4	HVY WOODS	16	10	0	1	1
T5	HILL	5	2	5	7	6
T6	-	-	-	-	-	-
T7	-	-	-	-	-	-
T8	-	-	-	-	-	-
T9	-	-	-	-	-	-
T10	MONASTERY	4	2	1	2	4
T11	WEST WALL	16	2	5	5	5
T12	CASTLE	4	1	0	1	1
T13	-	-	-	-	-	-
T14	PILL BOXES	16	8	1	1	2
T15	-	-	-	-	-	-
-	ROAD	1	1	N.A.	N.A.	N.A.
-	FORT	N.A.	N.A.	0	2	3
-	TOWN	N.A.	N.A.	2	5	5
-	BRIDGE	2	2	5	7	6
-	RIVER	N.A.	6	3	7	5

HURTGEN FOREST



Terrain Key

CLEAR	RIDGE	WOODS
HEAVY WOODS	WEST WALL	TOWN
FORTIFIED MINEFIELD	MINEFIELD	ROAD
FORTIFIED PILL BOX	FORTIFIED MONASTERY	FORTIFIED CASTLE
RIVER	ROAD BRIDGE	OTHER BRIDGE

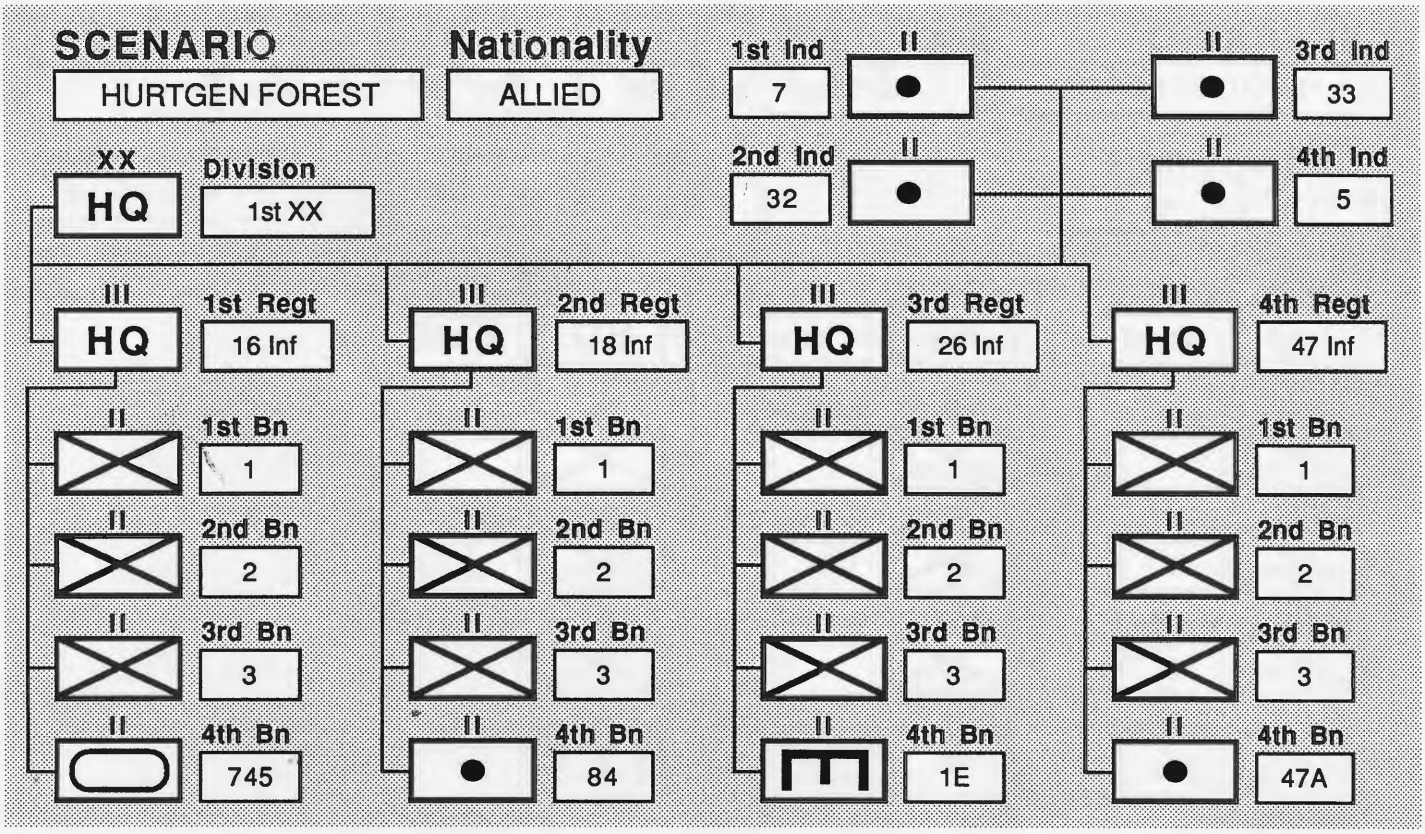


HEADQUARTERS DATA

FORMATION		XX HQ	1/RHQ	2/RHQ	3/RHQ	4/RHQ
HQ I.D.	[8]	104 XX	413 Inf	415 Inf	414 inf	CCB 3Arm
UNIT TYPE	[8]	Infantry	Infantry	Infantry	Infantry	Armour
HQ ADMIN	0-7	4	5	5	6	5
LEADERSHIP	0-7	5	4	4	6	5
HQ SUPPLY	0-7	3	7	7	7	7
BRITTLE	0-1	0	0	0	0	0
MOVEMENT	0-31	12	N/A	N/A	N/A	N/A
ARRIVAL	0-99	0	N/A	N/A	N/A	N/A
LOCATION	(x,y)	2,6	N/A	N/A	N/A	N/A

BATTALION DATA

FORMATION	II/III	1/1	2/1	3/1	4/1	1/2	2/2	3/2	4/2	1/3	2/3	3/3	4/3	1/4	2/4	3/4	4/4	1/-	2/-	3/-	4/-
UNIT I.D.	[3]	1	2	3	692	1	2	3	750	1	2	3	329	32	36	54		385	386	929	387
LOCATION	(x,y)	0,0	0,1	0,2	0,3	4,5	3,4	3,5	4,6	6,6	5,5	5,6	7,6	9,6	8,6	7,9		4,9	3,8	5,8	3,6
CLASS	0-13	0	0	0	10	0	0	0	11	0	0	0	7	11	2	13		13	13	13	13
MODE	0-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
EQUIPM'T	0-31	25	25	25	8	25	25	25	9	25	25	25	23	9	16	3		6	6	6	6
MOVEMENT	0-31	8	8	8	13	8	8	8	16	8	8	8	12	16	16	16		16	12	12	12
ARRIVAL	0-99	5	5	6	6	5	5	6	5	0	0	0	0	0	0	0		5	5	5	5
MAX STREN.	0-15	11	11	11	13	11	11	11	11	11	11	11	11	11	11	4		4	5	5	5
CUR. STREN.	0-15	11	11	11	13	11	11	11	11	11	11	11	11	11	11	4		4	5	5	5
RATING	0-15	6	6	6	7	6	6	6	9	6	6	6	7	9	8	8		8	8	8	11
RANGE	0-15	0	0	1	1	0	0	1	1	0	0	1	0	1	0	8		8	8	8	14
FATIGUE	0-7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7		7	7	7	7
EXPERIENCE	0-7	3	3	3	3	3	3	3	6	3	3	3	3	4	4	5		3	3	3	3
ATTACHM'T	0-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3	3	3	3

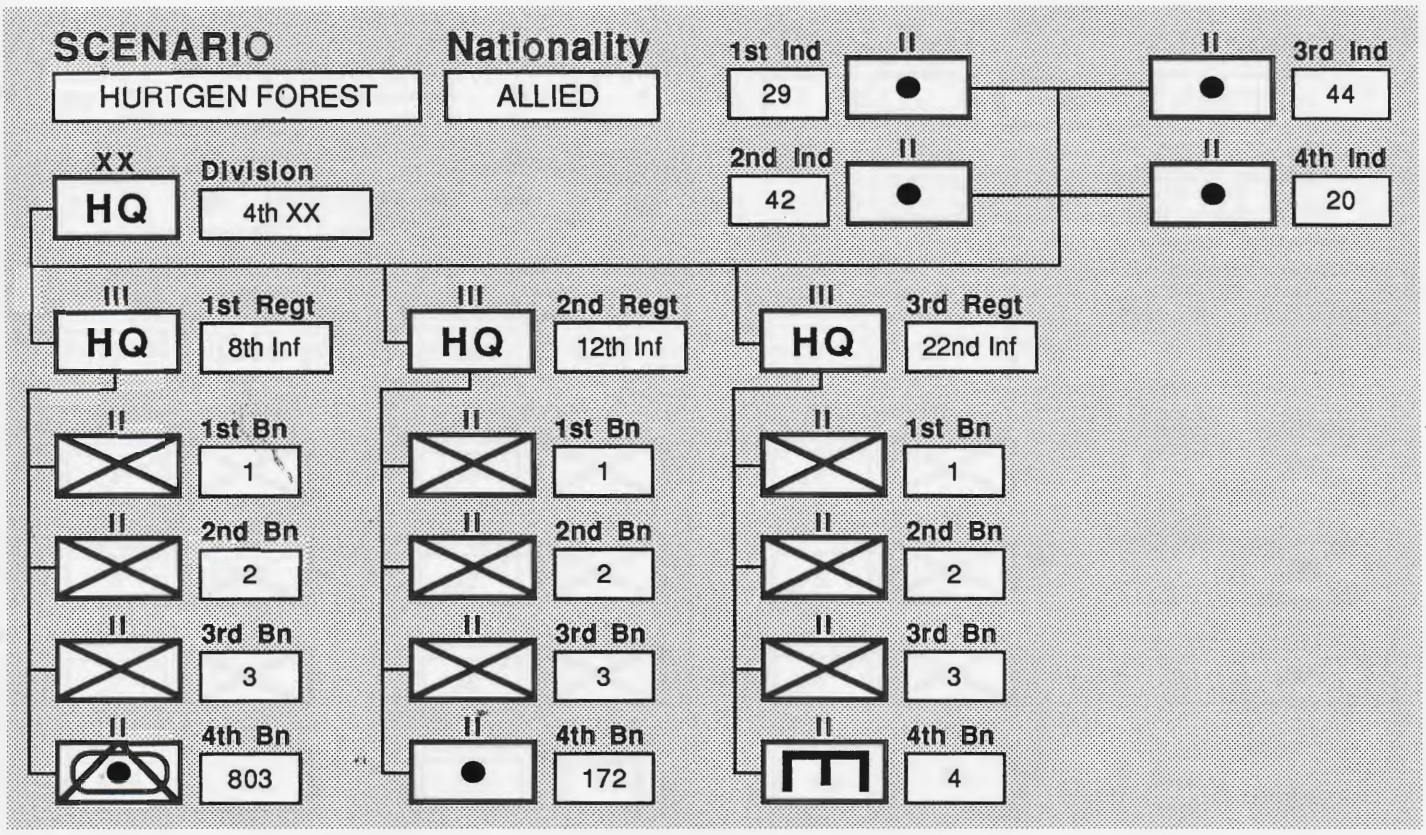


HEADQUARTERS DATA

FORMATION		XX HQ	1/RHQ	2/RHQ	3/RHQ	4/RHQ
HQ I.D.	[8]	1st XX	16 Inf	18 Inf	26 Inf	47 Inf
UNIT TYPE	[8]	Infantry	Infantry	Infantry	Infantry	Infantry
HQ ADMIN	0-7	7	6	6	6	5
LEADERSHIP	0-7	6	6	6	6	5
HQ SUPPLY	0-7	7	7	7	7	7
BRITTLE	0-1	0	0	0	0	0
MOVEMENT	0-31	12	N/A	N/A	N/A	N/A
ARRIVAL	0-99	0	N/A	N/A	N/A	N/A
LOCATION	(x,y)	2,11	N/A	N/A	N/A	N/A

BATTALION DATA

FORMATION	II/III	1/1	2/1	3/1	4/1	1/2	2/2	3/2	4/2	1/3	2/3	3/3	4/3	1/4	2/4	3/4	4/4	1/-	2/-	3/-	4/-
UNIT I.D.	[3]	1	2	3	745	1	2	3	84	1	2	3	1E	1	2	3	47A	7	32	33	5
LOCATION	(x,y)	11,7	11,8	11,9	10,10	5,9	6,11	5,10	4,11	12,7	13,7	12,8	12,9	10,8	9,7	9,8	7,11	4,8	6,12	8,12	6,10
CLASS	0-13	0	0	0	11	0	0	0	13	0	0	0	7	0	0	0	13	13	13	13	13
MODE	0-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EQUIPM'T	0-31	25	25	25	9	25	25	25	6	25	25	25	23	25	25	25	6	6	6	6	5
MOVEMENT	0-31	8	8	8	13	8	8	8	16	8	8	8	12	8	8	8	12	16	16	16	12
ARRIVAL	0-99	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MAX STREN.	0-15	11	11	11	13	11	11	11	5	11	11	11	11	11	11	11	3	5	5	5	4
CUR. STREN.	0-15	11	11	11	13	11	11	11	5	11	11	11	11	11	11	11	3	5	5	5	4
RATING	0-15	7	7	7	8	7	7	7	8	7	7	7	8	6	6	6	8	8	8	8	11
RANGE	0-15	0	0	1	1	0	0	1	8	0	0	1	0	0	0	1	8	8	8	8	14
FATIGUE	0-7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
EXPERIENCE	0-7	5	5	5	5	5	5	5	5	5	5	5	6	5	5	5	4	6	6	6	6
ATTACHM'T	0-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1	3	4

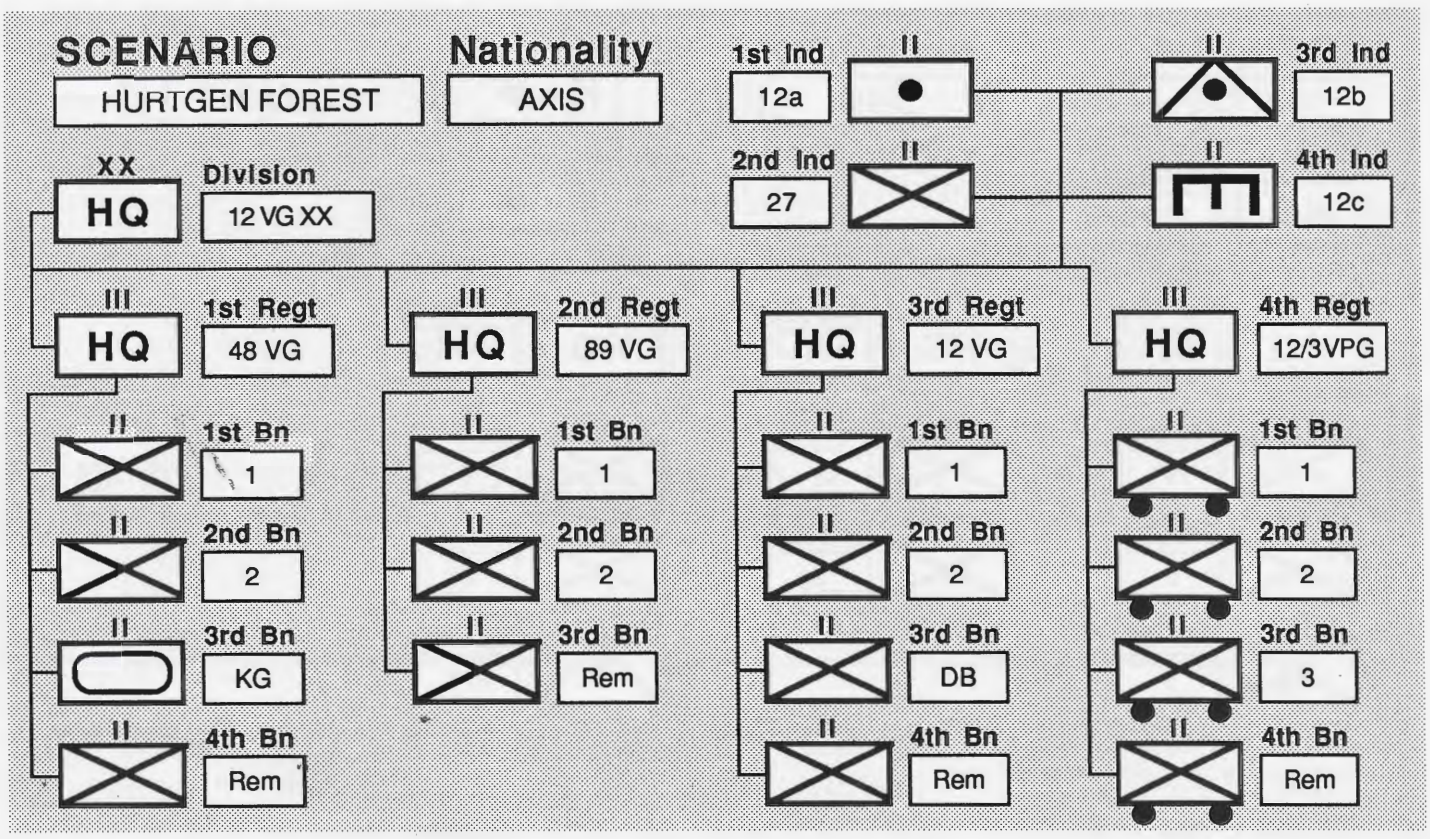


HEADQUARTERS DATA

FORMATION		XX HQ	1/RHQ	2/RHQ	3/RHQ	4/RHQ
HQ I.D.	[8]	4th XX	8th Inf	12th Inf	22nd Inf	
UNIT TYPE	[8]	Infantry	Infantry	Infantry	Infantry	
HQ ADMIN	0-7	6	6	4	5	
LEADERSHIP	0-7	6	6	6	5	
HQ SUPPLY	0-7	5	7	3	3	
BRITTLE	0-1	0	0	0	0	
MOVEMENT	0-31	12	N/A	N/A	N/A	N/A
ARRIVAL	0-99	0	N/A	N/A	N/A	N/A
LOCATION	(x,y)	12,12	N/A	N/A	N/A	N/A

BATTALION DATA

FORMATION	II/III	1/1	2/1	3/1	4/1	1/2	2/2	3/2	4/2	1/3	2/3	3/3	4/3	1/4	2/4	3/4	4/4	1/-	2/-	3/-	4/-
UNIT I.D.	[3]	1	2	3	803	1	2	3	172	1	2	3	4					29	42	44	20
LOCATION	(x,y)	13,8	13,9	13,10	12,10	15,12	15,13	13,12	14,13	14,10	15,10	14,4	7,6					11,12	11,11	10,12	9,12
CLASS	0-13	0	0	0	10	0	0	0	13	0	0	0	7					13	13	13	13
MODE	0-3	0	0	0	0	0	0	0	0	0	0	0	0					0	0	0	0
EQUIPM'T	0-31	25	25	25	8	25	25	25	27	25	25	25	23					6	6	6	5
MOVEMENT	0-31	8	8	8	13	8	8	8	16	8	8	8	12					16	16	16	12
ARRIVAL	0-99	0	0	0	0	0	0	0	0	0	0	0	0					0	0	0	0
MAX STREN.	0-15	11	11	11	13	11	11	11	4	11	11	11	11					4	4	4	4
CUR. STREN.	0-15	11	11	11	13	11	11	11	4	11	11	11	11					4	4	4	4
RATING	0-15	6	6	6	7	5	5	5	11	6	6	6	8					8	8	8	11
RANGE	0-15	0	0	1	2	0	0	1	15	0	0	1	0					8	8	8	14
FATIGUE	0-7	7	7	7	7	2	2	2	7	7	7	7	7					7	7	7	7
EXPERIENCE	0-7	5	5	5	5	5	5	5	4	5	5	5	5					5	5	5	5
ATTACHM'T	0-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	2	1	1

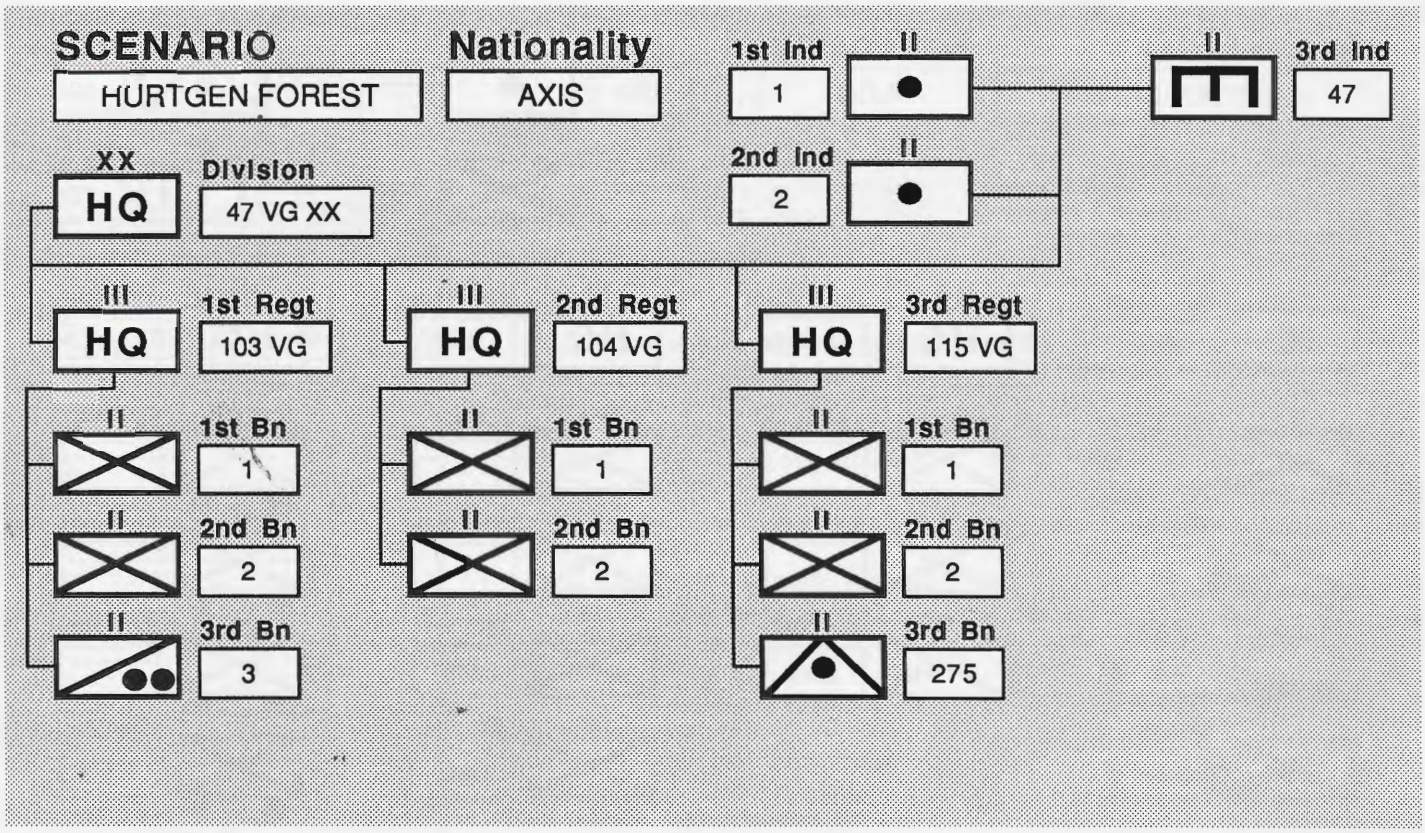


HEADQUARTERS DATA

FORMATION		XX HQ	1/RHQ	2/RHQ	3/RHQ	4/RHQ
HQ I.D.	[8]	12 VG XX	48 VG	89 VG	12 VG	12/3VPG
UNIT TYPE	[8]	Infantry	Infantry	Infantry	Infantry	Infantry
HQ ADMIN	0-7	5	5	5	5	4
LEADERSHIP	0-7	5	5	5	6	5
HQ SUPPLY	0-7	5	6	6	6	2
BRITTLE	0-1	0	0	0	0	0
MOVEMENT	0-31	12	N/A	N/A	N/A	N/A
ARRIVAL	0-99	0	N/A	N/A	N/A	N/A
LOCATION	(x,y)	15,2	N/A	N/A	N/A	N/A

BATTALION DATA

FORMATION	II/III	1/1	2/1	3/1	4/1	1/2	2/2	3/2	4/2	1/3	2/3	3/3	4/3	1/4	2/4	3/4	4/4	1/-	2/-	3/-	4/-
UNIT I.D.	[3]	1	2	KG	Rem	1	2	Rem		1	2	DB	Rem	1	2	3	Rem	12a	27	12b	12c
LOCATION	(x,y)	10,7	9,5	10,2	21,8	5,3	7,3	10,3		8,4	9,4	7,5	7,2	3,0	4,1	6,1	10,1	9,2	13,6	11,6	13,1
CLASS	0-13	0	0	11	0	0	0	0		0	0	0	0	1	1	1	1	13	0	9	7
MODE	0-3	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0
EQUIPM'T	0-31	25	25	14	25	25	25	25		25	25	25	25	1	1	1	1	7	26	10	23
MOVEMENT	0-31	8	8	16	8	8	8	8		8	8	0	8	12	12	12	12	12	8	12	8
ARRIVAL	0-99	0	0	11	12	3	3	12		3	0	0	12	5	5	5	12	0	0	0	0
MAX STREN.	0-15	9	9	4	3	8	8	3		9	9	2	3	7	7	7	3	6	12	9	11
CUR. STREN.	0-15	9	9	4	3	8	8	3		9	9	2	3	7	7	7	3	6	12	9	11
RATING	0-15	4	4	12	3	4	4	3		5	5	5	3	5	5	5	4	9	6	5	7
RANGE	0-15	0	0	1	0	0	0	0		0	0	0	0	0	0	1	0	12	0	1	1
FATIGUE	0-7	7	7	6	7	7	7	7		7	7	7	7	7	7	7	7	7	7	7	7
EXPERIENCE	0-7	4	4	5	4	4	4	4		4	4	5	4	4	4	4	4	4	4	4	4
ATTACHM'T	0-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	2	2	3

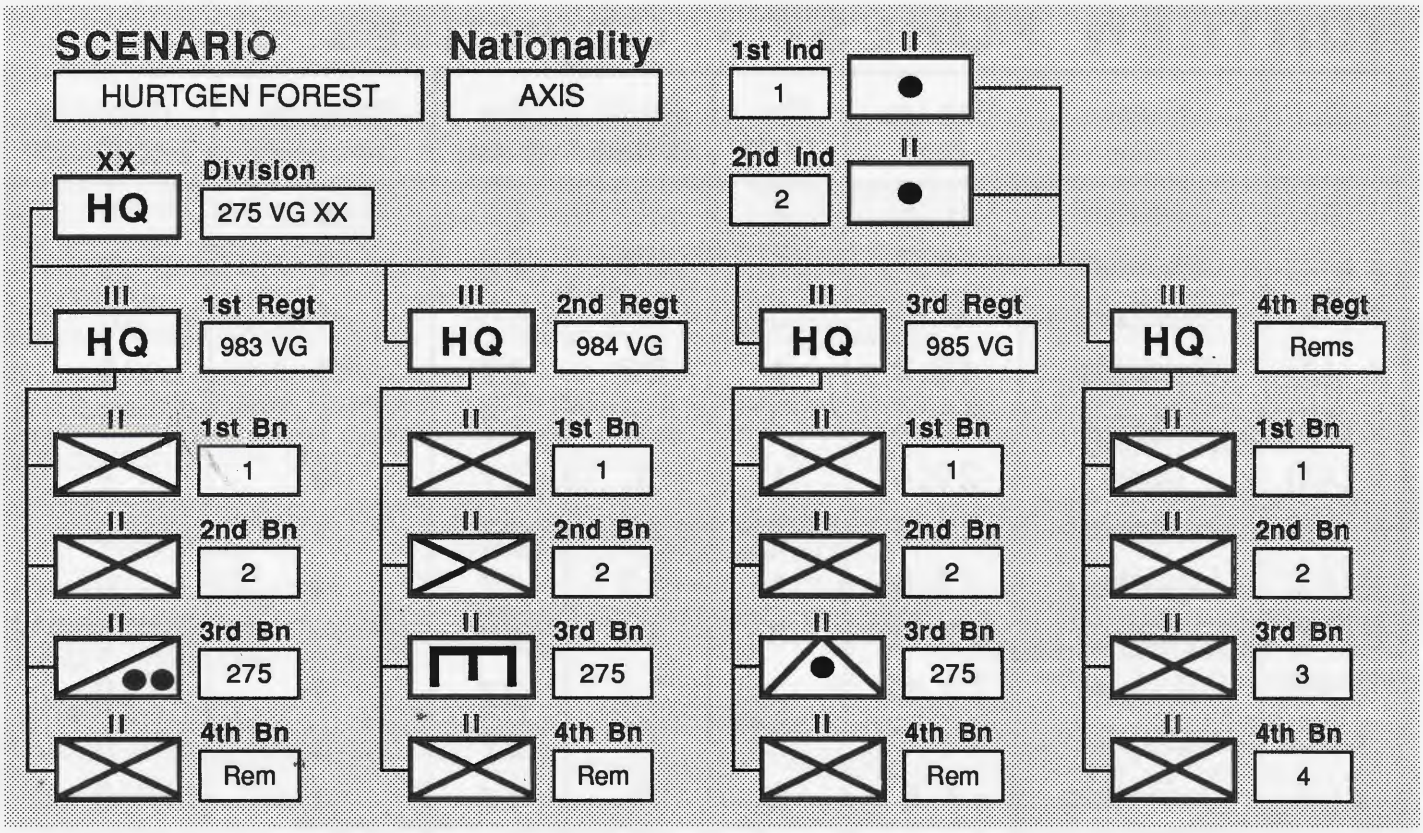


HEADQUARTERS DATA

FORMATION		XX HQ	1/RHQ	2/RHQ	3/RHQ	4/RHQ
HQ I.D.	[8]	47 VG XX	103 VG	104 VG	115 VG	
UNIT TYPE	[8]	Infantry	Infantry	Infantry	Infantry	
HQ ADMIN	0-7	4	5	5	5	
LEADERSHIP	0-7	3	5	5	5	
HQ SUPPLY	0-7	6	6	6	6	
BRITTLE	0-1	0	0	0	0	
MOVEMENT	0-31	11	N/A	N/A	N/A	N/A
ARRIVAL	0-99	8	N/A	N/A	N/A	N/A
LOCATION	(x,y)	24,4	N/A	N/A	N/A	N/A

BATTALION DATA

FORMATION	II/III	1/1	2/1	3/1	4/1	1/2	2/2	3/2	4/2	1/3	2/3	3/3	4/3	1/4	2/4	3/4	4/4	1/-	2/-	3/-	4/-
UNIT I.D.	[3]	1	2	3		1	2			1	2	275						1	2	47	
LOCATION	(x,y)	25,3	25,3	19,10		25,2	25,3			25,4	25,5	18,4						23,0	23,0	23,4	
CLASS	0-13	0	0	6		0	0			0	0	9						13	13	7	
MODE	0-3	0	0	0		0	0			0	0	0						0	0	0	
EQUIPM'T	0-31	25	25	12		25	25			25	25	10						6	6	23	
MOVEMENT	0-31	8	8	16		8	8			8	8	12						8	8	8	
ARRIVAL	0-99	9	9	9		10	10			11	11	11						3	4	9	
MAX STREN.	0-15	11	11	9		11	11			11	11	5						3	3	12	
CUR. STREN.	0-15	11	11	9		11	11			11	11	5						3	3	12	
RATING	0-15	4	4	4		4	4			4	4	7						8	8	10	
RANGE	0-15	0	0	0		0	0			0	0	1						8	8	1	
FATIGUE	0-7	7	7	7		7	7			7	7	7						7	7	7	
EXPERIENCE	0-7	3	3	4		3	3			3	3	4						3	3	5	
ATTACHM'T	0-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1	1	



HEADQUARTERS DATA

FORMATION		XX HQ	1/RHQ	2/RHQ	3/RHQ	4/RHQ
HQ I.D.	[8]	275 VG XX	983 VG	984 VG	985 VG	Rems
UNIT TYPE	[8]	Infantry	Infantry	Infantry	Infantry	Infantry
HQ ADMIN	0-7	5	5	6	4	4
LEADERSHIP	0-7	5	6	6	3	3
HQ SUPPLY	0-7	2	3	3	2	2
BRITTLE	0-1	0	0	0	0	0
MOVEMENT	0-31	11	N/A	N/A	N/A	N/A
ARRIVAL	0-99	0	N/A	N/A	N/A	N/A
LOCATION	(x,y)	21,5	N/A	N/A	N/A	N/A

BATTALION DATA

FORMATION	II/III	1/1	2/1	3/1	4/1	1/2	2/2	3/2	4/2	1/3	2/3	3/3	4/3	1/4	2/4	3/4	4/4	1/-	2/-	3/-	4/-
UNIT I.D.	[3]	1	2	275	Rem	1	2	275	Rem	1	2	275	Rem	1	2	3	4	1	2		
LOCATION	(x,y)	14,8	15,8	19,10	21,8	23,8	23,7	19,7	21,5	17,11	18,13	18,12	21,11	17,9	17,10	22,12	23,10	18,8	18,9		
CLASS	0-13	0	0	6	0	0	0	7	0	0	0	9	0	0	0	0	0	13	13		
MODE	0-3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
EQUIPM'T	0-31	25	25	12	25	25	25	23	25	25	25	10	25	25	25	25	25	6	6		
MOVEMENT	0-31	8	8	16	8	8	8	8	8	6	6	12	8	8	8	8	8	8	8		
ARRIVAL	0-99	0	0	0	16	0	0	0	16	0	0	0	12	4	8	12	16	0	0		
MAX STREN.	0-15	11	11	11	2	11	11	11	2	11	11	5	2	2	2	2	2	3	3		
CUR. STREN.	0-15	11	11	11	2	11	11	11	2	11	11	5	2	2	2	2	2	3	3		
RATING	0-15	4	4	4	3	4	4	5	3	4	4	7	3	3	3	3	3	7	7		
RANGE	0-15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	8		
FATIGUE	0-7	7	7	7	7	0	0	7	7	7	7	7	7	7	7	7	7	7	7		
EXPERIENCE	0-7	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3		
ATTACHM'T	0-4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3	2		

HURTGEN FOREST - Objectives

I.D.	Name [11]	Map Loc [x,y]	Div. (0-3)	Start (0-99)	End (0-99)	Points per Turn (0-30)	Points at End (0-255)
1 (AX)	Eschweiler	9,2	2	7	27	2	0
2 (AX)	Hof Hardt	18,7	1	21	27	1	0
3 (AX)	Stohlberg	6,5	0	1	10	1	0
4 (AX)	Weisweiler	12,3	1	22	27	1	0
5 (AX)	Merberich	15,2	2	22	27	1	0
6 (AX)	Duren	22,4	1	1	27	0	5
7 (AX)	Gut Schwab	15,7	3	17	27	1	0
8 (AX)	Laufenberg	15,5	1	17	27	1	0
9 (AX)	Gey	19,10	3	17	27	1	0
10 (AX)	Hurtgen	18,12	3	17	27	1	0
11 (AX)	Merode	18,5	2	17	27	1	0
12 (AX)	Donnerberg	7,5	2	1	10	1	0
1 (AL)	Eschweiler	9,2	1	1	20	1	50
2 (AL)	Hill 232	10,5	2	1	15	2	0
3 (AL)	Merberich	15,2	2	1	20	1	25
4 (AL)	Stohlberg	6,5	1	1	9	1	0
5 (AL)	Donnerberg	7,5	2	1	8	2	0
6 (AL)	Weisweiler	12,3	2	1	20	5	50
7 (AL)	Gut Schwab	15,7	3	1	20	1	5
8 (AL)	Gressenich	10,7	0	1	15	1	0
9 (AL)	Hof Hardt	18,7	3	1	20	1	5
10 (AL)	Gey	19,10	0	1	20	1	5
11 (AL)	Merode	18,5	2	1	27	1	5
12 (AL)	Hurtgen	18,12	3	1	27	1	5

HURTGEN FOREST - Miscellaneous Factors

ADJACENT ENEMY HEX PENALTY (AXIS/ALLIED) (0-15)

1st HEX =	0 1	4th HEX =	3 3
2nd HEX =	1 1	5th HEX =	4 4
3rd HEX =	2 2	6th HEX =	5 5

VICTORY POINTS PER STRENGTH POINT ELIM. (0-15)

	MECH	NON MECH
AXIS	1	1
ALLIED	2	2

MAP SIZE

ACROSS (0-2)	1
DOWN (0-3)	1

Continued from p.29

which resisted all attacks for three days. 1st Division attacked along the Hamich Ridge towards Hamich village but the attack was quickly contained by the 12th Volks Grenadier. three days later the Big Red One still had not captured Hamich.

Barton's 4th Division attacked on cue and bogged down just as quickly. Its weakened regiments were in no condition to properly support the 1st Div on its left and the attack produced heavy casualties and little real estate.

The poor road network in its sector made resupply difficult and the terrain in front of the 4th was the worst along the entire 1st Army Front. So bad was the situation in the south that on the 17th the 4th Division was unable to attack at all.

To make things worse, the weather deteriorated, turning to light rain. mist and fog, hindering air support and artillery spotting. The roads turned to quagmires and re-supply became the critical factor.

Finally though, the attack made progress. After three days of attrition and few reinforcements the German position in the Donnerberg abruptly collapsed.

The Donnerberg fell on the 18th; 1st Division captured Hill 232 on the 18th and the 4th Division simply ground down the 275th Division to progress to within half a mile of the Gut Schwarzenbroich castle. However, this did not resemble the grand design of a rapid break out on the scale of Cobra.

Heavy casualties and slow penetration characterized the progress that had been made.

At this point, when the front was giving way, the Germans committed whatever reserves they could scrounge. The 47th VG Div was thrown in to beef up the 12th VG sector opposite the 1st Div. A kampfgruppe from the 116th Panzer and the 104th VG Rgt launched a counterattack to retake Hamich and Hill 232. It was beaten off but the effort did stabilize the front in the German center.

In the south, opposite the 4th Division, the Germans rushed forward the remnants of two VG divisions, the 344th and 353rd and also threw in shattered contingents of the 116th Panzer. by the 20th these had stiffened the 275th Div considerably, and the 4th's attack ground to a halt.

THE SCENARIO

As the Allies you must get going quickly. Take the Donnerberg as soon as possible and get armor moving up the Stohlberg Corridor before the Germans can commit the 47VG and the 116 Pz. This was, after all, the original Allied plan. The Corridor is vital because of its suitability for armored operations. You will have to exercise some caution. The German units opposing you will generally be of poor quality, and often will be kampfgruppes or remnants. However all other advantages like terrain and weather will usually be on their side. Be careful with the 4th Division. It is not in good shape and if you push it too hard you are asking for trouble.

As the Germans you have an interesting position. You must hold the Donnerberg for as long as possible. The longer you hold the Donnerberg, the better your chances of being able to commit the 47th VG to stopping the Big Red One opposite Hamich. Then you can feed in your hastily reassembled kampfgruppe reinforcements into a delaying action along the corridor. Fight all out for Eschweiler. In the south things should be simpler. If the American player gets too aggressive with the 4th a counter-attack may be in order. Don't do it too early or you will be in trouble.

VARIANTS

Better Weather. The weather was terrible for most of the battle. Adjust the start weather to something more suitable for air operations and the Americans will do much better.

More Aggressive 104th. The 104th Division was green, fouled its opening attack and was sluggish throughout the rest of the battle. Assume that it performed somewhat better first time out. Increase the experience of all battalions to 4 where appropriate and increase HQ admin and leadership to 5.

5th Armour to the Rescue. The 4th infantry ran into such difficulties during the battle that Bradley decided to commit the V Corps 5th Arm XX. 5th Arm actually turned up on the 23rd and blasted right into Hurtgen city. Assume a more realistic appraisal of the initial situation. Model the CCR of the 5th armored on the CCB of the 3rd Armored attached to 104th Infantry. Attach the CCR to the 4th Infantry and have it arrive on turn 3 at hex 4,13. ◆

QUESTIONS

Continued from p. 12

Q. Why are some of my objectives ignored by the game but show up during map walk.

A. All objective names must start with a real character. If you start with a space then the program thinks that the objective is unused.

Q. Do the OKH/Stavka orders (ATTACK, ACTIVE, DEFEND and RETIRE) affect human Army Group/Theatre commands?

A. Those orders only affect any computer controlled players. they have no effect on supply or anything else for a human player.

Q. What is the reason for the three division formation limit in *Battlefront*? What do I do about an otherwise interesting fight with 4 or 5 divisions per side?

A. The limitation is to keep the number of formations that have to be ordered and kept track of down to a reasonable level. We thought that a maximum of 63 counters on the map was about right. Don't feel absolutely restricted by the number of divisions. Some selective amalgamation can fit 4 or even 5 divisions into a side, especially if they are under-strength to start with, as was typical of German formations for instance.

Q. I've found that the computer, when playing either side in *Russia*, tends to ignore Sevastopol and the Crimea. Do you have any suggestions on how to encourage the computer as an opponent to take an interest in that area?

A. Basically no. A convoluted peninsula like the Crimea is a nightmare for movement routines. As this is the only area in ***Russia*** where this problem can occur, we chose not to add the mechanisms which would fix it up; we needed the memory too badly elsewhere.

MEA CULPA

In the Hue scenario of ***Halls of Montezuma***, there are some hexes shown across the Perfume River as bridgeable. While this is technically correct in that there were bridges there, they had been destroyed by the start of the game. There is no way to get from the area south of the Perfume River to the north. ◆

EUROPE ABLAZE

Technical Data on Plane Types

PART FOUR

British and Soviet Aircraft of World War II

In this chapter of our ***Europe Ablaze*** *technical feature, British and Soviet aircraft are described and formatted. All production types as well as many of the more interesting development types are included.*

Minor Allied aircraft types have not been included because of space limitations. There will be a small chapter devoted to them in the next issue.

AIRCRAFT NOTES

The following notes are intended to give a brief summary of operational histories as well as to identify the more important modifications made to major aircraft types. The arrangement in this section corresponds to the order in the accompanying tables.

British Aircraft

A.W. 38 WHITLEY. Twin engine heavy night bomber. Entered service 1939 and until 1942 saw front line action over Germany with Bomber Command. Later used as a paratroop trainer. 150 aircraft were fitted with air-to-surface radar for use by Coastal Command.

A.W. 41 ALBEMARLE. Twin engine reconnaissance bomber. Entered service in 1942 but never saw action in its intended bomber role. Used principally as a glider tug and transport on Southern and Western Fronts from 1943-1945.

652A. ANSON. Twin engine reconnaissance aircraft. Entered service 1934 as the RAF's first monoplane. Used extensively by Coastal Command until 1943, then relegated to transport and training duties. Known affectionately as *Faithful Annie*. Extended post-war service in communications role.

679 MANCHESTER. Twin engine heavy night bomber. Entered service 1940 and took part in the first 1,000 plane raid on Cologne. Poor performance forced its relegation to training duties as soon as its formidable successor, the Lancaster, was available.

683 LANCASTER. Four engine heavy night bomber. Most famous of all Bomber Command aircraft. Entered service in 1942 and became mainstay of British night bomber offensive against Germany until war's end. Among many achievements, Lancasters destroyed the Mohne and Eder dams, sank the *Tirpitz* and smashed U-boat pens using the 10,000 kg Grand Slam bomb.

B. 5 BAFFIN. Single engine biplane reconnaissance torpedo bomber. Entered service in 1935 with the Fleet Air Arm (FAA). Obsolete by 1939, the aircraft saw service during the war years with the New Zealand Air Force (RNZAF) in coastal patrol duty.

B. 6 SHARK. Single engine biplane reconnaissance torpedo spotter. Entered service 1935 but relegated to target towing duty by 1939. Saw some action during Dunkirk evacuation and later against the Japanese air forces in Malaya.

B. 24 SKUA. Single engine naval dive bomber. First monoplane to enter service with the FAA. Sank German cruiser *Konigsberg*, served as an ad-hoc fighter at Dunkirk then later relegated to advanced trainer duty.

B. 25 ROC. Single engine naval fighter. This development of the Skua dive bomber saw limited operational action from 1941 in a land-based role only. Later relegated to training duties. Several aircraft were converted to floatplanes.

B. 26 BOTHA. Twin engine reconnaissance bomber. Entered service 1939. Poor performance resulted in limited operational use before relegation to training duties in 1941.

B. 45 FIREBRAND. Single engine torpedo strike fighter. Entered service late 1944 but did not see combat. Mediocre performance resulted in its prompt withdrawal to training duties.

BRITISH AIRCRAFT OF WWII

NAME	[11]	Whitley	Albemarle	Anson	Manchester	Lancaster	Lancaster	Baffin	Shark	Skua	Roc
DESIGNATION	or[11]	Mk V	Mk II	Mk I	Mk I	Mk I	Mk III	(-)	Mk III	Mk II	(-)
ROLE	0-3	2 (3)	3	3	2	2	2	3	3	2	1
CREW	0-7	5	4	3	6	6	6	2	3	2	2
FUEL	1-255	104	87	50	89	128	118	95	68	47	44
PAYLOAD	0-63	24	14	2	35	55	63	7	7	2	1
SERVICE CEIL.	11-41	26	18	19	19	22	22	15	20	19	18
MAX. SPEED	1-41	12	13	9	13	14	14	7	8	11	12
OPT. ALTITUDE	1-31	16	11	13	17	17	17	7	6	7	8
CRUIS. SPEED	1-31	11	9	8	11	11	12	5	6	8	7
CLIMB RATE	1-15	5	5	5	4	3	3	2	7	7	8
FIREPOWER	0-7	2	2	1	3	3	4	1	1	3	2
MANOEUVER.	0-7	2	3	4	1	0	0	5	4	4	4
VULNERABILITY	0-7	3	3	3	3	3	4	2	2	3	3
NIGHT	Y/N	Y	N	N	Y	Y	Y	N	N	N	N
TOT. PROD.	[#]	c. 1,800	c. 600	c. 11,000	c. 200	c. 2,800	c. 4,500	c. 100	c. 270	c. 200	c. 140

NAME	[11]	Botha	Firebrand	Defiant	Bulldog	Bombay	Blenheim	Blenheim	Blenheim	Beaufort	Beaufighter
DESIGNATION	or[11]	Mk I	Mk II	Mk I	Mk IV	Mk I	Mk I	Mk IF	Mk IV	Mk I	Mk I
ROLE	0-3	3	1	0	0	2	2	0	2	2	0
CREW	0-7	4	1	1	1	3	3	3	3	4	2
FUEL	1-255	74	33	27	29	84	56	61	71	107	75
PAYLOAD	0-63	7	7	0	0	7	4	0	5	6	0
SERVICE CEIL.	11-41	24	31	30	33	25	27	27	31	17	29
MAX. SPEED	1-41	13	18	15	11	10	14	14	13	13	16
OPT. ALTITUDE	1-31	15	17	17	20	7	15	15	12	6	16
CRUIS. SPEED	1-31	11	14	13	8	8	12	11	11	9	12
CLIMB RATE	1-15	3	13	10	8	3	7	7	8	7	9
FIREPOWER	0-7	1	4	2	2	1	1	3	2	3	7
MANOEUVER.	0-7	2	5	4	7	2	3	3	3	3	4
VULNERABILITY	0-7	3	5	4	2	2	3	3	3	2	4
NIGHT	Y/N	N	N	N (Y)	N	N (Y)	N	Y	Y	N	Y
TOT. PROD.	[#]	c. 580	c. 230	c. 1,080	c. 450	c. 50	c. 1,220	c. 200	c. 950	c. 1,130	c. 1,560

NAME	[11]	Beaufighter	Buckingham	Mosquito	Mosquito	Mosquito	Mosquito	Fox	Firefly	Battle	Seafox
DESIGNATION	or[11]	Mk X	Mk I	Mk IX	Mk XVI	Mk XIX	Mk VI	Mk VI	Mk IIM	Mk III	(-)
ROLE	0-3	1	2	3	2	0	1	0	0	2	3
CREW	0-7	2 (3)	3	2	2	2	2	2	1	3	2
FUEL	1-255	73	94	113	74	70	87	28	24	57	52
PAYLOAD	0-63	8	4	0	14	0	7	0 (2)	0	4	0 (1)
SERVICE CEIL.	11-41	15	25	38	37	28	33	37	31	25	11
MAX. SPEED	1-41	15	17	21	20	19	19	11	11	13	6
OPT. ALTITUDE	1-31	13	12	29	26	13	13	13	10	15	6
CRUIS. SPEED	1-31	12	15	13	12	15	13	8	9	10	5
CLIMB RATE	1-15	8	7	13	13	12	14	13	9	6	2
FIREPOWER	0-7	4	1	0	0	4	7	2	2	1	1
MANOEUVER.	0-7	4	3	5	4	5	4	6	7	3	4
VULNERABILITY	0-7	4	3	4	4	4	4	2	1	3	2
NIGHT	Y/N	N	N	N (Y)	N (Y)	Y	N	N	N	N (Y)	N
TOT. PROD.	[#]	c. 4,300	c. 120	c. 1,000	c. 2,170	c. 1,740	c. 2,870	c. 250	c. 90	c. 2,200	c. 70

P. 82 DEFIANT. Single engine day/night fighter. Entered service in 1940 and enjoyed brief success as a day fighter in the Battle of Britain until the Luftwaffe recognized the serious weaknesses of its turret mounted armament. Thereafter used as a night fighter until 1943 then despatched to the Middle East for army co-operation work.

105 BULLDOG. Single engine biplane fighter. Withdrawn from front line service with the RAF prior to 1939 but saw action with the Finnish Air Force against the Russians in the Winter War of 1939-1940.

130A BOMBAY. Twin engine bomber transport. Entered service 1941 and used solely in the Mediterranean Theatre. Assisted with troop evacuation from Greece then used as a bomber in the 1941 campaign in Iraq. Finally served as a night bomber in the Western Desert.

142M BLENHEIM. Twin engine medium bomber. Saw action in Middle East and North Africa from 1941 as well as extensive use by foreign air forces, both Axis and Allied. Mk IF variant pioneered the use of airborne radar to direct night fighter operations in the latter stages of the Battle of Britain.

149 BLENHEIM. Twin engine high altitude medium bomber. A later development of the Blenheim series, this aircraft entered service 1941 but poor performance and high losses in the Mediterranean Theatre forced its relegation to training and transport duties by the end of 1943.

152 BEAUFORT. Twin engine torpedo bomber. Entered service 1940 and served as Coastal Command's principal torpedo bomber in the Atlantic, the North Sea and the English Channel until 1943. Employed against Axis convoys in the Mediterranean until replaced by Beaufighters. Some 600 aircraft transferred to the Australian Air Force (RAAF).

156 BEAUFIGHTER. Twin engine night fighter/anti shipping strike fighter. Entered service late 1940 in radar-equipped night fighter role and achieved some success against Luftwaffe bombers. The combination of excellent handling characteristics and long range made the aircraft suitable for many roles, especially anti shipping and anti submarine strikes. Used extensively in all theatres.

163 BUCKINGHAM. Twin engine attack bomber/transport. Did not see service in its intended role of attack bomber. All aircraft were converted to high speed transports.

D.H. 98 MOSQUITO. Twin engine night fighter, fighter-bomber, attack bomber and reconnaissance aircraft. In this writer's view the most successful and practical aircraft design of the war. The unique, all wooden airframe proved resilient and reliable and in one variant or another, mosquitoes served in every theatre of the war, performing every type of operation.

FOX. Single engine biplane reconnaissance fighter. Not used by the RAF. Entered service with the Belgian Air Force in 1932 and equipped 9 squadrons at the time of the German invasion. It was no match for modern Luftwaffe types.

FIREFLY. Single engine biplane fighter. Not used by the RAF. Entered service with the Belgian Air Force in 1931 but withdrawn from front line service by the time of the German invasion. Some sorties were flown before the surviving aircraft escaped to France.

BATTLE. Single engine light bomber. Entered service 1937 and saw extensive action in France from May-June 1940. Outclassed by Luftwaffe fighters and poorly protected by Allied fighters, casualties quickly reached alarming proportions. Surviving aircraft withdrawn and operated in a night bombing role against channel ports from July-October 1940. Later relegated to training and coastal patrol duties.

SEAFOX. Single engine biplane reconnaissance floatplane. British equivalent of US Kingfisher and Japanese E8N1 (Dave). Entered service 1939 and saw action in shipboard search and spotting duties until 1943 when relegated to a training role.

ALBACORE. Single engine biplane carrier-borne/land-based torpedo bomber. Entered service in 1940 with Coastal Command. First carrier-borne operations were in 1941 in the Mediterranean. Later used to protect Russian convoys and as a night bomber in the Western Desert.

FULMAR. Single engine carrier-borne reconnaissance fighter. Entered service 1940 with the FAA and provided convoy protection in the Mediterranean, Far East and Arctic Theatres. Reliable performance but vulnerable to modern, single seat fighters.

100 BARRACUDA. Single engine carrier-borne torpedo/dive bomber. Entered service late 1943 as the FAA's first indigenous monoplane torpedo bomber. After limited use during the Salerno landings, saw action in the Pacific in the last year of the war.

FIREFLY. Single engine carrier-borne reconnaissance fighter. Entered service in 1944 and saw some action in the Pacific Theatre in the closing months of the war. Not to be confused with the little 1930s biplane of the same name and described earlier.

S.S. 19B GAUNTLET. Single engine biplane fighter. Entered service with the RAF in 1935 but obsolete by the outbreak of the Second World War. Saw action in the Middle East in 1940 and with the South African Air Force (SAAF) against Italian forces in East Africa.

S.S. 37 GLADIATOR. Single engine biplane fighter. Entered service in 1937 as the RAF's last biplane fighter. Saw action in the Battle of France, Battle of Britain, in the Western Desert and in Norway. Export versions used by Finland, China, Belgium and Greece. Later used for training duty and the collection of meteorological data.

G. 41C METEOR. Twin engine jet interceptor fighter. The first and only jet plane to see operational service with Allied forces during the war. Entered service 1944 and initially employed against V1 rockets. Later used on the continent for airbase defense against Me 262 jets but no confrontation recorded.

H.P. 54 HARROW. Twin engine medium bomber/transport. Entered service 1937 but withdrawn from front line duty by 1940. Used to lay *Pandora* aerial mines against Luftwaffe night bombers during the Battle of Britain. Later served as transports in all major theatres.

H.P. 52 HAMPDEN. Twin engine medium bomber. The most modern bomber in RAF service on the outbreak of the Second World War. Its initial performance in daylight raids proved disappointing and the aircraft was relegated to night bombing duties until phased out in 1942. Later used by Coastal Command as a torpedo bomber and for the collection of meteorological data.

H.P. 57 HALIFAX. Four engine heavy night bomber. The second most important aircraft used by Bomber Command in the strategic bombing offensive against Germany. Entered service in 1941 and saw action until war's end in bombing, transport and clandestine operations.

HART. Single engine biplane light bomber. Withdrawn from RAF front line service prior to the start of the Second World War. Saw action in North Africa with the SAAF. Also used by Swedish volunteer squadron against Russia in the Winter War of 1939-40.

BRITISH AIRCRAFT (Cont.)

NAME	[11]	Albacore	Fulmar	Barracuda	Firefly	Gauntlet	Gladiator	Meteor	Harrow	Hampden	Halifax
DESIGNATION	or[11]	(-)	Mk I	Mk II	Mk I	Mk II	Mk I	Mk III	Mk II	Mk I	Mk III
ROLE	0-3	2	0	2	0	0	0	0	2	2	2
CREW	0-7	3	2	3	2	1	1	1	5	4	6
FUEL	1-255	82	40	77	78	30	26	23	128	149	108
PAYLOAD	0-63	7	0	7	4	0	0	0	4	14	43
SERVICE CEIL.	11-41	21	26	17	28	34	33	40	23	23	24
MAX. SPEED	1-41	8	14	12	16	12	13	21	10	13	14
OPT. ALTITUDE	1-31	4	12	5	14	16	15	30	10	16	14
CRUIS. SPEED	1-31	6	12	9	10	9	10	17	8	8	11
CLIMB RATE	1-15	4	6	4	10	11	11	11	4	4	4
FIREPOWER	0-7	1	6	1	4	2	3	5	2	3	3
MANOEUVER.	0-7	4	4	4	5	6	7	5	3	2	1
VULNERABILITY	0-7	2	4	4	5	1	2	6	3	3	4
NIGHT	Y/N	N (Y)	N	N	N	N	N	N	N (Y)	Y	Y
TOT. PROD.	[#]	c. 800	c. 600	c. 2,600	c. 1,620	c. 250	c. 770	c. 300	c. 100	c. 1,530	c. 6,100

NAME	[11]	Hart	Fury	Nimrod	Osprey	Audax	Hardy	Hind	Hurricane	Hurricane	Hurricane
DESIGNATION	or[11]	Mk I	Mk II	Mk I	Mk IV	Mk I	Mk I	Mk I	Mk I	Mk IIC	Mk IID
ROLE	0-3	2	0	0	0	3 (2)	2	2	0	0	1
CREW	0-7	2	1	1	2	2	2	2	1	1	1
FUEL	1-255	35	20	24	39	31	28	34	35	55	46
PAYLOAD	0-63	2	0	0	0	0 (1)	1	2	0	4	5
SERVICE CEIL.	11-41	21	30	28	25	22	18	25	33	36	36
MAX. SPEED	1-41	9	11	10	8	9	8	9	15	17	16
OPT. ALTITUDE	1-31	5	17	14	7	3	4	16	10	18	18
CRUIS. SPEED	1-31	8	8	6	5	5	5	6	10	10	10
CLIMB RATE	1-15	6	14	10	8	4	4	4	12	15	14
FIREPOWER	0-7	1	2	2	1	1	1	1	5	4	2
MANOEUVER.	0-7	5	6	6	6	6	6	5	6	6	5
VULNERABILITY	0-7	2	2	2	1	1	1	2	3	4	4
NIGHT	Y/N	N	N	N	N	N	N	N	N	N	N
TOT. PROD.	[#]	c. 1,030	c. 260	c. 100	c. 140	c. 780	c. 50	c. 580	c. 3,880	c. 4,400	c. 1,900

NAME	[11]	Hurricane	Typhoon	Tempest	London	Singapore	Sunderland	Stirling	Stanraer	Spitfire	Spitfire
DESIGNATION	or[11]	Mk IV	Mk IB	Mk V	Mk II	(-)	Mk V	Mk III	(-)	Mk IA	Mk V
ROLE	0-3	1	1	1	3	3	3	2	3	0	0
CREW	0-7	1	1	1	6	6	7	6	6	1	1
FUEL	1-255	42	24	55	129	119	189	108	120	27	20
PAYLOAD	0-63	7	7	7	7	7	17	47	4	0	2
SERVICE CEIL.	11-41	35	35	37	20	15	18	17	19	32	36
MAX. SPEED	1-41	16	21	21	8	7	11	14	8	18	18
OPT. ALTITUDE	1-31	18	19	19	3	2	5	15	6	15	6
CRUIS. SPEED	1-31	10	13	14	7	5	7	11	5	11	14
CLIMB RATE	1-15	14	13	15	6	4	4	4	6	13	15
FIREPOWER	0-7	2	4	4	2	1	5	3	2	4	6
MANOEUVER.	0-7	5	5	6	0	0	0	1	1	6	6
VULNERABILITY	0-7	5	5	6	2	2	4	3	3	4	4
NIGHT	Y/N	N	N	N	Y	Y	Y	Y	Y	N	N
TOT. PROD.	[#]	c. 3,400	c. 3,300	c. 1,420	c. 50	c. 40	c. 750	c. 2,370	c. 60	c. 2,500	c. 9,590

BRITISH AIRCRAFT (Cont.)

NAME	[11]	Spitfire	Spitfire	Vildebeest	Wellesley	Wellington	Whirlwind
DESIGNATION	or[11]	Mk IX	Mk XIV	Mk IV	Mk I	Mk I	Mk I
ROLE	0-3	0 (1)	0 (1)	2	2	2	0 (1)
CREW	0-7	1	1	2	2	5	1
FUEL	1-255	37	34	142	172	153	38
PAYLOAD	0-63	0 (4)	0 (2)	7	7	16	0 (2)
SERVICE CEIL.	11-41	41	41	19	33	18	30
MAX. SPEED	1-41	20	22	8	13	12	18
OPT. ALTITUDE	1-31	25	26	5	14	16	15
CRUIS. SPEED	1-31	16	18	5	9	10	14
CLIMB RATE	1-15	15	15	4	6	6	8
FIREPOWER	0-7	6	5	1	2	3	4
MANOEUVER.	0-7	6	7	4	3	2	4
VULNERABILITY	0-7	5	6	2	3	4	4
NIGHT	Y/N	N	N	N	Y	Y	N
TOT. PROD.	[#]	c. 6,400	c. 1,790	c. 210	c. 180	c. 11,460	c. 120

SOVIET AIRCRAFT OF WWII

NAME	[11]	(-)	(-)	(-)	(-)	(-)	(-)
DESIGNATION	or[11]	MBR-2bis	KOR-1	MDR-6A	Il-2	Il-2m	Il-2m3
ROLE	0-3	3	3 (2)	3	2	2	2
CREW	0-7	4	2	5	2	2	2
FUEL	1-255	47	29	93	30	30	28
PAYLOAD	0-63	3	1 (2)	5	5	5	7
SERVICE CEIL.	11-41	26	23	30	20	20	22
MAX. SPEED	1-41	9	9	13	13	14	14
OPT. ALTITUDE	1-31	7	6	10	5	5	7
CRUIS. SPEED	1-31	5	6	10	10	10	11
CLIMB RATE	1-15	2	3	7	7	7	8
FIREPOWER	0-7	1	1	1	3	3	4
MANOEUVER.	0-7	0	2 (4)	1	4	4	4
VULNERABILITY	0-7	2	2	3	3	3	4
NIGHT	Y/N	N	N	Y	N	N	N
TOT. PROD.	[#]	c. 400	c. 180	c. 60	c. 12,000	c. 3,000	c. 20,000

NAME	[11]	(-)	(-)	(-)	(-)	(-)	(-)
DESIGNATION	or[11]	Il-2T	Il-10	DB-3B	Il-4	Di-6	LaGG-3
ROLE	0-3	2	2	2	2	0	0
CREW	0-7	2	2	3	3	2	1
FUEL	1-255	35	27	130	141	23	22
PAYLOAD	0-63	6	4	15	18	0	0 (2)
SERVICE CEIL.	11-41	22	25	30	32	26	32
MAX. SPEED	1-41	13	18	12	13	12	17
OPT. ALTITUDE	1-31	6	9	17	22	10	16
CRUIS. SPEED	1-31	10	14	9	10	9	11
CLIMB RATE	1-15	7	10	7	9	8	14
FIREPOWER	0-7	4	4	2	2	2 (3)	3
MANOEUVER.	0-7	4	6	2	3	6	5
VULNERABILITY	0-7	3	4	3	4	1	4
NIGHT	Y/N	N	N	N (Y)	N (Y)	N	N
TOT. PROD.	[#]	c. 360	c. 6,960	c. 1,530	c. 5,260	c. 250	c. 6,530

FURY. Single engine biplane interceptor fighter. Entered service 1931 and served with the RAF until 1939. Used in East Africa by the SAAF. Used by both Republican and Nationalist air forces in the Spanish Civil War.

NIMROD. Single engine biplane interceptor fighter. Relegated to training duties with the FAA by 1939. Danish models in service until German invasion in 1940.

OSPREY. Single engine biplane carrier-borne reconnaissance fighter. Relegated to training and target towing duties with the FAA by 1939. At least one aircraft served with Republican air forces during the Spanish Civil War.

AUDAX. Single engine biplane army co-operation/light bomber. Used for communication duties in the UK but overseas use included bombing and ground attack operations. Saw action in Iraq, Iran, East Africa and Malaya.

HARDY. Single engine biplane army co-operation/light bomber. A development of the Audax equipped for desert service. Used in East Africa against Italian forces and later for general purpose communications work. Another variant, the Hartbees, was essentially the same as the Hardy but designed for tropical climates.

HIND. Single engine biplane light bomber. Relegated to training duty with the RAF by 1939. Export aircraft saw service with Latvia, Afghanistan and Iran.

HURRICANE. Single engine interceptor fighter/fighter-bomber. The mainstay of Fighter Command in the Battle of Britain and the second most important British fighter of the war. Entered service in 1937 and 29 squadrons were operational by the middle of 1940. Gave sterling service throughout the war in all theatres in both fighter and fighter-bomber roles. Remained in use until war's end.

TYPHOON. Single engine fighter. Entered service 1941. Originally intended as the replacement for the Hurricane. Proved unsatisfactory as a fighter but much more useful in a fighter-bomber role. The principal ground support fighter during the Allied advance into Germany 1944-45.

TEMPEST. Single engine fighter-bomber. Entered service 1944. First used to destroy V1 rockets before joining the Allied advance into Germany. Claimed several Me 262s shot down in the closing months of the war.

LONDON. Twin engine reconnaissance flying boat. Used in anti submarine and convoy

SOVIET AIRCRAFT (Cont.)

NAME	[11]	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
DESIGNATION	or[11]	La-5	La-5FN	La-7	Mig-1	Mig-3	R-10	Pe-2	Pe-3	Pe-8	U-2VS
ROLE	0-3	0	0 (1)	0	0	0	3	2	1	2	2
CREW	0-7	1	1	1	1	1	2	3	3	7	2
FUEL	1-255	21	23	18	29	33	53	42	44	159	49
PAYLOAD	0-63	0	0 (3)	0	0	0 (2)	3	9	5	29	2
SERVICE CEIL.	11-41	31	31	34	36	39	23	29	29	24	13
MAX. SPEED	1-41	19	20	21	18	20	12	17	18	14	6
OPT. ALTITUDE	1-31	18	21	20	21	26	12	16	16	15	5
CRUIS. SPEED	1-31	12	13	14	12	13	9	13	13	11	4
CLIMB RATE	1-15	14	15	15	14	14	8	12	12	3	5
FIREPOWER	0-7	3	4	4	3	5	2	2 (3)	4	3	1
MANOEUVER.	0-7	5	6	6	5	5	3	4	4	1	6
VULNERABILITY	0-7	5	5	6	3	4	3	5	5	4	2
NIGHT	Y/N	N	N	N	N	N	N	N	N	Y	N (Y)
TOT. PROD.	[#]	c. 700	c. 9,000	c. 5,750	c. 100	c. 3,320	c. 550	c. 10,800	c. 500	c. 80	c. 40,000

NAME	[11]	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
DESIGNATION	or[11]	R-5	I-5	I-15bis	I-153	I-16	I-17	Su-2	TB-3	Kr-6	SB-2
ROLE	0-3	3	0	0	0	0	0	2	2	0	2
CREW	0-7	2	1	1	1	1	1	2	5	3	3
FUEL	1-255	50	24	33	34	29	25	41	166	49	45
PAYLOAD	0-63	3	0	0	0 (1)	0	0	5	29	0	8
SERVICE CEIL.	11-41	21	27	31	35	30	36	29	25	20	28
MAX. SPEED	1-41	7	10	12	14	16	18	14	9	10	13
OPT. ALTITUDE	1-31	10	10	13	16	8	15	14	12	7	13
CRUIS. SPEED	1-31	5	8	9	10	9	12	11	7	7	10
CLIMB RATE	1-15	5	10	13	15	15	14	7	2	5	6
FIREPOWER	0-7	1	2 (3)	4	4	4	5	3	1	4	2
MANOEUVER.	0-7	5	6	6	7	7	5	3	0	2	2
VULNERABILITY	0-7	2	1	2	2	3	3	2 (3)	2	2	3
NIGHT	Y/N	N	N	N	N	N	N	N	N (Y)	N	N (Y)
TOT. PROD.	[#]	c. 7,000	c. 800	c. 3,140	c. 3,440	c. 6,500	c. 30	c. 560	c. 820	c. 400	c. 6,970

NAME	[11]	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)	(-)
DESIGNATION	or[11]	Tu-2S	UT-2	Yak-1	Yak-3	Yak-4	Yak-6	Yak-7B	Yak-9	Yak-9D	Yer-2
ROLE	0-3	2	2	0	0	2	2	0 (1)	0 (1)	0	2
CREW	0-7	4	2	1	1	2	2	1	1	1	4
FUEL	1-255	53	36	39	26	27	59	26	31	44	127
PAYLOAD	0-63	22	1	0 (2)	0	5	4	0 (2)	0 (2)	0	8
SERVICE CEIL.	11-41	31	11	33	35	29	16	33	35	35	33
MAX. SPEED	1-41	17	7	18	22	17	7	19	20	19	16
OPT. ALTITUDE	1-31	18	3	16	20	16	6	16	14	14	20
CRUIS. SPEED	1-31	14	5	8	13	13	5	12	13	12	12
CLIMB RATE	1-15	9	6	15	15	5	4	15	15	14	7
FIREPOWER	0-7	3	0 (1)	3	4	2	1	3	3	3	2
MANOEUVER.	0-7	3	6	6	6	3	5	5	6	6	3
VULNERABILITY	0-7	5	1	4	6	3	2	4	5	5	4
NIGHT	Y/N	N	Y	N	N	N	N	N	N	N	N (Y)
TOT. PROD.	[#]	c. 2,500	c. 7,240	c. 8,720	c. 4,850	c. 130	c. 200	c. 6,400	(c. 16,770)		c. 320

escort duties in the North Sea and the Mediterranean until withdrawn from service in early 1942.

SINGAPORE. Four engine maritime reconnaissance flying boat. Entered service in 1934. Saw action in the Middle East in 1940 and later with the RNZAF in coastal patrol duties.

SUNDERLAND. Four engine maritime reconnaissance flying boat. Entered service in 1938. British equivalent of the Japanese H8K1 (Emily). Remained principal Coastal Command flying boat until war's end. Saw action in all major theatres as well as equipping RAAF, RNZAF and RCAF squadrons.

S. 39 STIRLING. Four engine heavy night bomber. First four engine monoplane to see action with the RAF. Entered service late in 1940. Participated in night bombing offensive against Germany until phased out from 1943 in favour of better performed Halifaxes and Lancasters. Late models were converted to troop transports.

STANRAER. Twin engine reconnaissance flying boat. Served with Coastal Command on North Sea patrols in the first year of the war. Used for similar duty by the RCAF until 1943.

300 SPITFIRE. Single engine interceptor fighter/fighter-bomber. The dominant fighter aircraft of the RAF from 1940 until war's end. Continual development of the type resulted in its being a match for equivalent Luftwaffe types for most of the war. Served in all theatres in both air superiority and ground support roles. Equipped several USAAF squadrons until sufficient Mustangs were available. Also equipped RAAF, RNZAF and RCAF squadrons.

286 VILDEBEEST. Single engine biplane torpedo bomber. Entered service 1934. Though obsolete by 1940, performed valiantly in the defense of Singapore and later on coastal patrol duty in the Indian Ocean.

290 WELLESLEY. Twin engine medium bomber. Entered service 1938. Saw action in Somaliland, East Africa and the Western Desert. Later used by Coastal Command for maritime reconnaissance.

415 WELLINGTON. Twin engine medium bomber. The most modern bomber in RAF service at the outbreak of war. Early daylight use against naval and coastal targets resulted in heavy losses. Formed the backbone of Bomber Command's strategic bombing offensive against Germany until early 1943 when phased out in favour of the new four engine heavies. Used extensively in Italy and the Mediterranean until war's end and in a training role in the UK.

P. 9 WHIRLWIND. Twin engine long range fighter. Entered service in 1940. Combat debut delayed until 1941 because of chronic engine problems. First twin engine, single seat aircraft in RAF service and never showed much potential. Saw some action as a fighter-bomber until phased out in 1943.

Soviet Aircraft

MBR-2bis. Single engine maritime reconnaissance flying boat. Entered service 1933. Served throughout the war on patrol and ASW duty in the Baltic and Black Seas.

KOR-1. Single engine observation floatplane. Entered service 1938. Employed in coastal patrol duties in the early months of the war. Several were converted to land-planes in 1941 for use in a ground support role in the defense of Odessa.

MDR-6A. Twin engine reconnaissance-bomber flying boat. Entered service just prior to war with Germany and was the most modern aircraft of its type to see action with Soviet forces. Principally used in long range reconnaissance and transport duties.

Il-2 Series. Single engine ground attack bomber. Entered service in mid 1941. In one variant or another, provided ground and anti-tank support to Soviet armies until war's end. Commonly known as Sturmoviks. The Il-2m3 variant, produced from mid 1942 until late 1944, was the most numerous model.

Il-10. Single engine ground attack bomber. Entered service early 1945. The successor to the Il-2 series and a much more manoeuvrable and sturdy aircraft. Had replaced Il-2s in most front line units by war's end.

DB-3B. Twin engine medium bomber. Entered service 1937. Employed against Finland in the Winter War of 1939-40. For the most part, withdrawn from front line duty by the time of the German invasion.

Il-4. Twin engine medium bomber. Successor to the DB-3B, the Il-4 was the backbone of the Soviet long range bomber force throughout the war. Production ran more or less continuously from 1941-44. The aircraft underwent very little modification, principally because of the more pressing needs of other aircraft types.

DI-6. Single engine biplane fighter. Entered service 1937. Saw some action against Japanese air forces in 1939 but relegated to training duties by the time of the German invasion.

LaGG-3. Single engine fighter. Entered service in 1940. Bore the brunt of the initial German attacks but slightly poorer performance coupled with inferior pilot quality made it an easy target for Bf 109s. Enjoyed some success against Bf 110s and Luftwaffe bombers. Relegated to advanced training duty in mid 1943.

La-5 Series. Single engine fighter. Entered service late 1942 as a replacement for the LaGG-3. The improved La-5FN variant quickly became the dominant model in operational service because of its superior handling and engine performance. In the hands of a skilled pilot, the aircraft was a match for all Luftwaffe fighters except the Fw 190.

La-7. Single engine interceptor fighter. Entered service 1944 as a purpose built interceptor, not a replacement for the La-5 series. The only Soviet fighter type with a recorded victory against an Me 262 jet. Extensive post-war service with Soviet Satellite air forces.

Mig-3 Series. Single engine interceptor fighter. Entered service in 1941. After a generally disappointing career, the type was relegated to advanced training duties by 1943. The initial Mig-1 model was quickly supplanted by the Mig-3 but its performance against the Bf 109 was not noticeably improved.

R-10. Single engine reconnaissance bomber. Entered service 1937. Employed against Japanese air forces in 1939. Relegated to training and transport duties by the time of the German invasion.

Pe-2. Twin engine dive bomber. Entered service in 1941 and proved a very successful design. Used throughout the war against Germany in a close ground support role. Saw some action in the turkey shoot against Japan in 1945. Very popular with its crews because of its reliability and manoeuvrability. Fighter-bomber (Pe-3) and reconnaissance variants were also produced.

Pe-8. Four engine heavy bomber. The only modern four engine heavy bomber made and used by the Soviets during the war. Never available in large numbers, the aircraft played only a minor role in the outcome of the war but on at least one occasion in 1941, bombed Berlin!

U-2VS (Po-2). Single engine biplane light bomber. Entered service in 1928 and used

primarily for training and transport duties until 1942. After modifications, employed in a night harassment role against German ground forces, causing considerable nuisance effect.

R-5. Single engine biplane reconnaissance bomber. Entered service in 1931. Saw action in Spain, Manchuria and in the Winter War of 1939-40 against Finland. Several units were still in front line service by the time of the German invasion and were badly mauled by the superior Luftwaffe planes. Promptly relegated to training, transport and clandestine activities.

I-5. Single engine biplane fighter. Entered service in 1931. Mostly relegated to training duty by the time of the German invasion. Isolated, one-sided engagements did take place in the opening months of the war. Completely phased out by 1942.

I-15bis (I-152). Single engine biplane fighter. Entered service in 1934. Employed by Republican forces in the Spanish Civil War, against Japan in 1939 and against the Finns in 1939-40. Relegated to second line units by 1941 but saw some action in a ground support role throughout the first year of the war.

I-153. Single engine biplane fighter. Improved version of the I-152 which first saw action in 1939 against Japanese air forces. Employed against the Finns in 1939-40 and finally against Germany until phased out in early 1943. Some captured aircraft were used by the Finns until 1944.

I-16. Single engine fighter. Entered service in 1936. Saw action in Spain, China and Finland. The most numerous Soviet fighter at the time of the German invasion, but proved no match for the speedier, tougher Bf 109s. Relegated to training duties by 1943.

I-17. Single engine fighter. Entered service in 1940. Produced in very limited numbers and the first Soviet fighter to resemble contemporary European fighters. May have seen some action in the southern sector in the first weeks of the war.

Su-2. Single engine ground attack bomber. Entered service in 1940. Intended as a replacement for the R-10, but its poor performance against Luftwaffe fighters forced its prompt relegation to training duties.

TB-3 (ANT-6). Four engine heavy bomber. Entered service 1934. Employed in China and Finland prior to the German invasion. Performed long range and night bombing operations in the first year of the war then later used for transport and para-drop duty.

Kr-6 (ANT-7). Twin engine heavy fighter. One of the very few twin engine fighter designs produced by the Soviet Union. Entered service in 1930. Mostly relegated to training duty by the time of the German invasion.

SB-2. Twin engine medium bomber. Entered service in 1936. Employed in Spain, China and Finland before seeing action against Germany in a night bombing role between 1941 and 1942. Later used for training duty.

Tu-2S. Twin engine medium bomber. Entered service in 1944 following extended development time. Excellent airframe which performed well in ground support and bombing roles until the German surrender. Used extensively post-war by Soviet Satellite air forces as well as seeing some action Korea.

UT-2. Single engine biplane trainer. Entered service in 1938 as the standard basic trainer. Used operationally as a night harassment bomber in conjunction with the Po-2. One squadron of captured aircraft were used in the same role by the Luftwaffe.

Yak-1. Single engine fighter. Entered service in 1940. The best of the Soviet fighters to engage German aircraft in the opening months of the war. Gradually replaced from 1943 onwards by Yak-9s. Equipped world's first all-female pilot fighter squadron from October 1941.

Yak-3. Single engine interceptor fighter. Entered service in 1943. In high altitude combat, the aircraft proved itself equal, if not superior, to both the Bf 109 and the Fw 190. Remained in front line service until well after the war, maintaining its reputation as the best of the Soviet fighters. Equipped the elite *Normandie-Niemen* Volunteer Groupe in 1945.

Yak-4. Twin engine light bomber. Originally designed as a reconnaissance fighter. It never saw action in its intended role and entered service in 1941 as an interim light bomber. A short and unsuccessful career saw its prompt relegation to training duties.

Yak-6. Twin engine light bomber. Entered service in 1943. Intended as a replacement for the Po-2. Served in a variety of second line roles including communications, transport and training duties.

Yak-7B. Single engine fighter/fighter-bomber. Entered service in 1941. Employed extensively in low altitude, ground support roles until supplanted in the mid-war years by the Yak-9. Relegated to training duties by war's end.

Yak-9 Series. Single engine fighter/fighter-bomber. The most numerous fighter produced by the Soviets throughout the war. Entered service in late 1942 as the replacement for the Yak-1. Yak-9D developed as a long range escort fighter. Other variants included reconnaissance, fighter-bomber and anti-tank types.

Yer-2. Twin engine medium bomber. Entered service in 1940. Immediately impressed for emergency ground support duty in the opening months of the war with Germany. Sustained heavy losses and subsequently reverted to its intended role of long range bomber. Employed as such until war's end.

Letters
Continued from p.14

against the computer, but I do intend to introduce some of my friends to these simulations soon so I should get some person to person experience.

Well, that's all I have to say except thanks for many hours of enjoyment and challenge. I'm looking forward to ***Road to Appomattox*** if it ever makes it onto the market.

Yours sincerely

A. Starck

Beaumaris, VIC. OZ

Dear SSG,

I would like to take a moment to thank you for the incredible contribution you have made to computer gaming. Each time you come out with a new product you advance the industry forward. I have purchased all creations of Roger Keating since the old SSI days and have never been disappointed. I really appreciate your efforts.

I read with great interest that RFTS is being adapted to the Mac! How about an Amiga port. (I just bought an Amiga.) I am also looking forward to the strategy games you come up with for the 16-bit computers. I've always been amazed at what you have done with 64K. You'll have a field day with 512K!

Fred Louderman

Oak Park, IL. USA ◆

Editor's Chance
Continued from p.2

scenarios on a number of subjects, including Iwo Jima and Hue. Kurt Bullard of Colorado Springs and Lew Fisher of Reno both chose the drive on St Lo, with equally fine results. Ed Beauregard of Richmond, Canada produced a well researched Falaise Gap scenario while Bob Wenstrup of Solon, OH recreated Peiper's Run in the Ardennes.

Ranging further afield, Felipe Martin of Caracas, Venezuela created a fascinating scenario on the fall of Singapore while Capt. W. H. Mulder of the US Air Force Academy, CO extended the game system to encompass most of the 7 Day War.

SSG would like to thank all those who submitted entries and who made the competition a resounding success. All of the entries are eligible for publication in future issues of ***Run 5*** so we may all enjoy more of the good work that has been done.

WORK IN PROGRESS

There's a lot going on at the moment. By the end of January (or early February) we expect to publish the Amiga, IIgs, IBM, Apple II and C-64 versions of Reach for the Stars.

Also in the works is the second volume of ***Decisive Battles of the ACW*** which will conclude our examination of that topic. With a few modifications, the same system will be used to produce one volume on the most exciting battles from the Napoleonic Wars. Work has started on that as well. ***ACW (Vol 2)*** will appear in April. ***Decisive Battles of the Napoleonic Wars*** will appear in July.

The ***Battlefront Game System*** will make another appearance with a selection of 8 scenarios from the North African/ Mediterranean/Middle East theatre.

Our adventure cum role-playing project has advanced a lot in our heads if not on paper. A Christmas 1988 release is what we're shooting for. We also have in mind a squad level WWII/Modern system which will rely on a revolutionary graphics structure which Roger has just about worked out.

The ***Battlefront Game System*** is currently being converted to IBM, Amiga, Macintosh and IIgs and we hope to have some titles for sale by April or May of 1988. ◆

Winning at RFTS
Continued from p.27

time. You may then choose to "lay low" for a while, colonising and building up your space fleets whilst keeping an eye on the victory points.

There is a danger that your opponents, having found each other, will generate huge victory points by going to war, and they will quickly outdistance you, so timing and control is important. When playing computer opponents especially, the idea is to keep your own victory points from placing you in the first place position until you are ready to make a major push from which you hope your opponents will not have time to recover. This will often involve knowing where your opponents have their best worlds and leaving them alone for some time, watching them across the gulf of space with envious eyes, and slowly but surely drawing your plans against them.

A Note on Invasions

To successfully invade a planet you must have enough ships to survive all four stages of such a task. First you must defeat any space fleet in the star system. This will result in losses to your warships and transports. Secondly, you must defeat the planetary defence bases. This will only involve warship loses and these ships are not needed after this. It may be an idea to hold back a few ships to ensure cover for the planet if you succeed, and interdict the enemy economy if you fail. Thirdly, you must invade the planet with your transports and overcome the native army. This will involve losses in the troops that you will need for the final stage. Once the enemy army is defeated you must have enough remaining troops to hold the planet's population in check.

Such a conquered colony can be hard to hold. Be prepared to send back-up colonists to the planet to increase the garrison because you can't conscript the locals.

In general you want slightly more warships than the expected number of PDBs and a number of transports greater than the defending army size plus one quarter of the planet's population.

Note also that to rescue your own planet from the clutches of some conquering space slime you will need not only to wipe out any PDBs they may have built but also land troops to take on their garrison (You may just bombard the planet from space but you are more likely to decimate your own population than damage the conquering garrison).

The Long Game

150 turns is the maximum game length that you may select when playing ***Reach for the Stars*** but there is no theoretical limit on the number of turns you may play by striking the continue game button on the last turn.

Many of the game testers have found it enjoyable to set themselves the task of eliminating all opposition and colonising the entire universe (sometimes just surviving can be a real achievement).

When playing against computer opponents, if you are at least holding your own by turn 150 you will probably succeed in an indefinite length game. An advanced game against several human opponents can just about last forever.

When playing the Long Game, the game itself becomes more of a lifestyle than a past-time; one game on record having gone on for several weeks, up to a record 405 turns, before victory was assured. Try it, you'll love it.

REACH FOR THE STARS ERRATA (Macintosh only)

The formula. We always have trouble with this. The real formula is -

$$(Pop \times 2) + \frac{(Ind \times Soc)}{16}$$

The list of costs that are doubled on captured planets during the advanced game should include Ship technology.

There is no interest on saved RPs in the advanced game.

Ships retreating from space combat do not spend one turn in deep space before moving to the retreat star as they do in the Apple II/C 64 versions.

In the advanced game, all computer players add one hex to their nav range at each nav tech level.

In the advanced game, the maximum for industry is 200 and the maximum for population and environment is 100. ◆

SUPERIOR COMPUTER GAMES FROM
STRATEGIC STUDIES GROUP

REACH FOR THE STARS

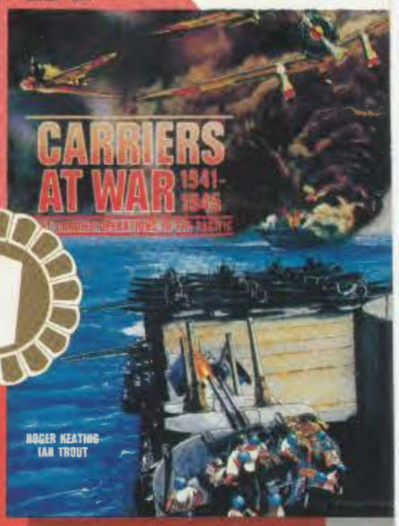
Now available for the Apple II family and the C-64/128 and soon for the Macintosh. Recommended Retail $45.00

"Reach for the Stars... is just about the best science fiction game for the thinking person available on any micro-computer." ***Science Digest.***

"...once mastered this might be the only game you'll ever want to buy for your C-64. Indeed, it would be worth buying a computer to play it. Definitely one of my most favourite games and a classic." ***Commodore Magazine.***

CARRIERS AT WAR

Winner of the 1985 Charles Roberts Award for Best Computer Game. Now available for the Apple II family and the C-64/128. Recommended Retail $50.00



"Besides its historical accuracy, *Carriers at War* is the best-playing simulation of naval warfare I have seen on either tabletop or video monitor." ***II Computing.***

"Carriers at War is the best game available on World War II carrier operations. It is, perhaps, the best wargame of 1984 on any topic." ***Computer Gaming World.***

EUROPE ABLAZE

Chosen as the Best Wargame of 1986 by Commodore Microcomputers magazine
Now available for the Apple II family and the C-64/128
Recommended Retail $50.00

"...prepare to experience what may well be the ultimate aerial warfare computer game. *Europe Ablaze*...is the best war game available for any home computer." **COMPUTE!'s Gazette.**

"As usual SSG have produced a top-of-the-range product. *Europe Ablaze* is exciting, compulsive and authentic." *Commodore Magazine.*

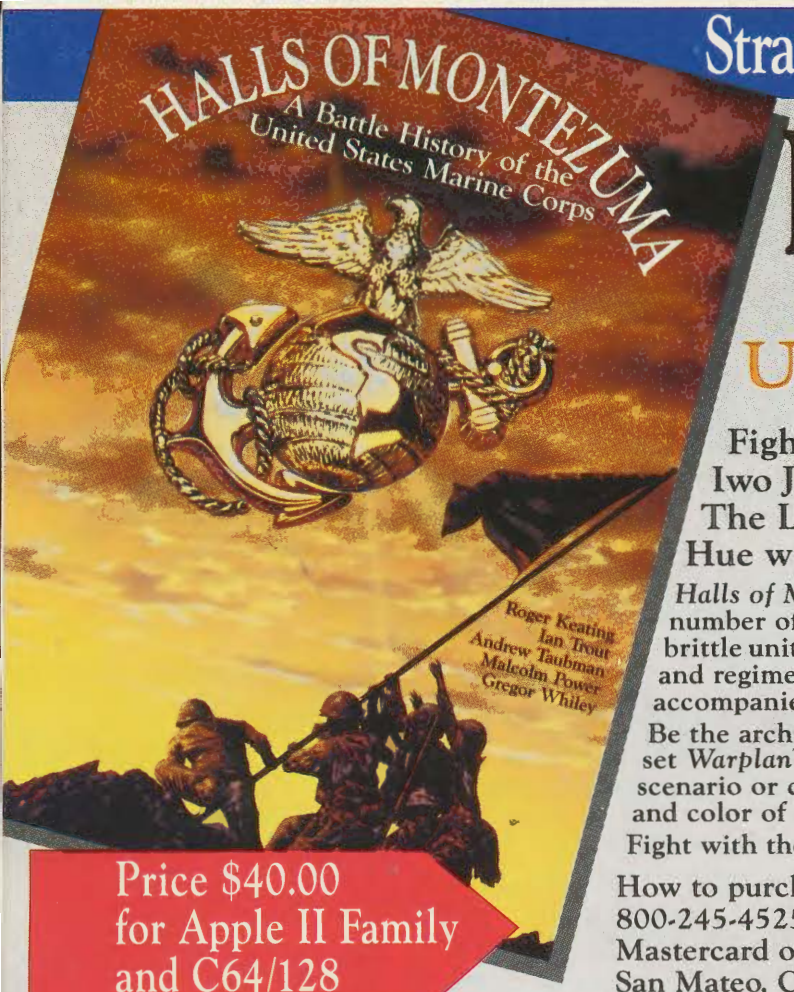
BATTLEFRONT

Now available for the Apple II family and the C-64/128. Recommended Retail $40.00

"SSG have done their usual fine job of design as well as programming. I thoroughly enjoyed *Battlefront* and look forward to new scenarios." ***Fire & Movement Magazine.***

"Battlefront certainly gives a very good 'feel' for corps level operations. It is...fast, interesting, well designed and well presented: a worthy successor to *Carriers at War*." ***Breakout.***

Strategic Studies Group Presents ...



Price $40.00 for Apple II Family and C64/128

Halls of Montezuma

A Battle History of the United States Marine Corps

Fight the battles of Mexico City, Belleau Wood, Iwo Jima, Okinawa — The Shuri Line, Okinawa — The Last Redoubt, Pusan Perimeter, Inchon and Hue with the elite fighting men of the US Marines.

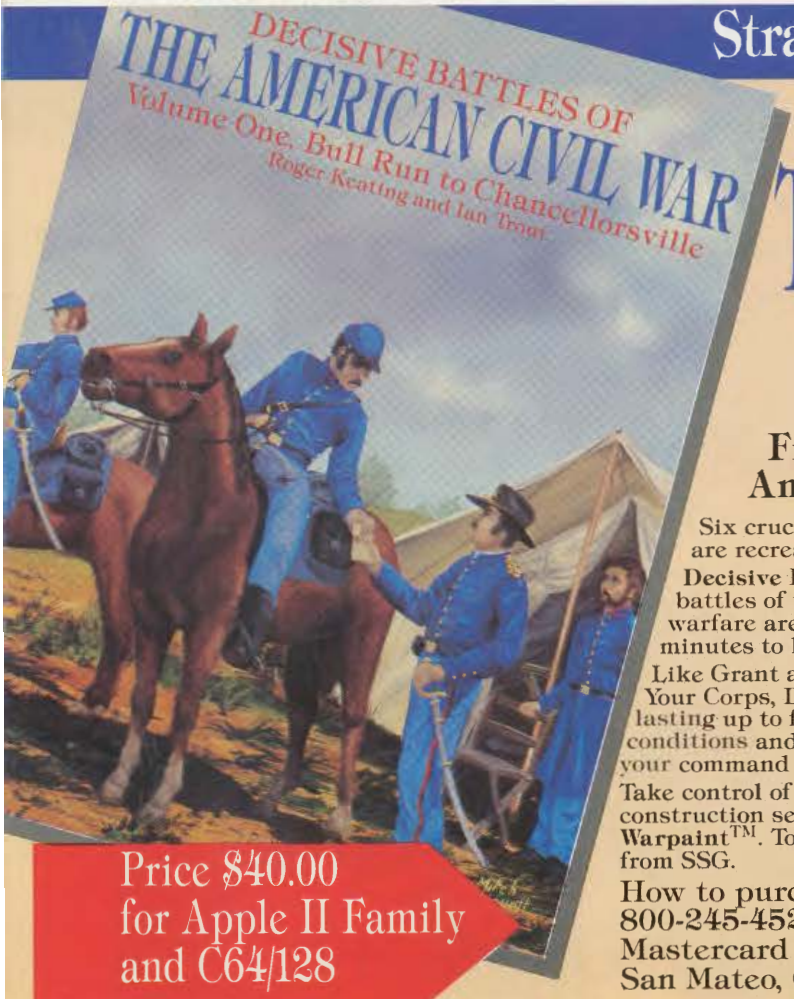
Halls of Montezuma uses the *Battlefront Game System* with a number of enhancements. These include: night capable units, brittle units, new reports structure, new graphics, improved movement and regimental integrity, and enhanced AI routines. The battles are accompanied by detailed historical articles and players notes.

Be the architect of victory with the complete wargame construction set *Warplan*™ and the total graphics editor *Warpaint*™. Alter any scenario or create new games with *Warplan*. Change the appearance and color of any game icon with *Warpaint*.

Fight with the best in *Halls of Montezuma* from SSG.

How to purchase. Visit your retailer or call Electronic Arts 800-245-4525 (in CA call 800-562-1112) for VISA or Mastercard orders or write to Electronic Arts, P.O. Box 7530, San Mateo, CA 94403.

Strategic Studies Group Presents ...



Price $40.00 for Apple II Family and C64/128

Decisive Battles of The American Civil War

Vol. 1 Bull Run to Chancellorsville

First Bull Run, Shiloh, Second Bull Run, Antietam, Fredericksburg, Chancellorsville.

Six crucial battles spanning the first half of The American Civil War are recreated in SSG's **Decisive Battles System.**

Decisive Battles is SSG's new grand tactical simulation, suitable for battles of the eighteenth and nineteenth centuries. The many aspects of warfare are integrated into an easy to use system that takes ten minutes to learn.

Like Grant at Shiloh and Lee at Antietam, you command an entire army. Your Corps, Divisions and Brigades depend upon your direction in battles lasting up to four days. **The American Civil War** faithfully reflects the conditions and command structures of the time. On a pre-radio battlefield, your command abilities will be stretched to the limit.

Take control of your battlefield with SSG's comprehensive wargame construction set **Warplan**™ and the revolutionary graphics editor **Warpaint**™. Total command can be yours with **The American Civil War** from SSG.

How to purchase. Visit your retailer or call Electronic Arts 800-245-4525 (in CA call 800-562-1112) for VISA or Mastercard orders or write to Electronic Arts, P.O. Box 7530, San Mateo, CA 94403.